

Beginning the Thirty-Sixth Year

GREEN'S FRUIT GROWER

The Oldest Fruit Journal in America



Rochester, N. Y.

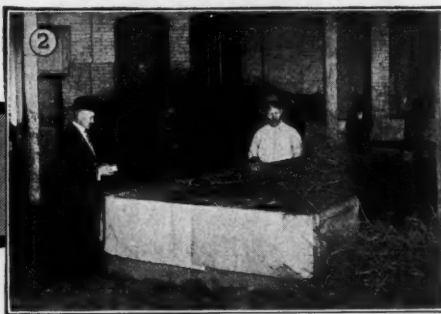
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January, 1916

Green's Fruit Grower



Note the straight, strong trunks, the height, size and well-formed growth of these Stark City grown 2-year apple trees. All our trees are specially trained in the nursery row to develop heavy, wide-spreading roots, and well-balanced, symmetrical trunks and heads.



Wm. P. Stark inspecting outgoing shipment. Every operation is done by skilled experts under the direct supervision of William P. Stark, whose 35 years' experience assures you tree quality such as you get nowhere else. We use the same painstaking care in grading, inspecting and packing the trees as in growing them.



Our "3000 Mile Package" brings the trees direct to you, fresh, full of life and vigor—no rehandling, no exposure, no drying out of roots or tops. The trees reach you in perfect condition for planting. We ship thousands of trees all over the world in these "3000 Mile Packages" every season.

"Buy Your Trees Direct!"

—Says Uncle Sam

"If the farmer makes his purchases direct from the nurseryman he will save the expense of the agent and is less liable to the mistakes in injury that may occur through repeated handling."

—United States Department of Agriculture—
Farmers' Bulletin No. 113.

30,000 Fruit-Growers Proved It Last Year!

Read What They Say! Then Write For Book!

Delicious Apple—"The Delicious apples from my trees are as pleasant to the taste as a sweet orange, fully as handsome, and should be in great demand by those who cannot eat an acid apple."—A. D. Van Cleave, Niagara Co., N.Y.

J. H. Hale Peach—"My young two year old trees bore 30 to 40 large peaches each. My peach orchard contains over 1500 peach trees of different varieties, and I wish that they were all J. H. Hale."—D. A. Hetrick, Indiana Co., Pa.

Buying Direct The Right Way—"Your way of selling direct to the planter is the correct way. It pays to get the best stock regardless of price."—W. T. Weir, Henderson Co., Ill.

No Agents—"Your idea to sell direct to consumer and cut out agents is a sure winner with careful, cool headed thinkers. I have fared badly in buying from agents."—H. E. Tankey, Rockingham Co., Va.

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Would Have Gone 10 Times As Far—"I never saw better packing than yours. The bundle would have gone 10 times as far. Have seen lots of nursery stock shipped in here this season with nothing but an old burlap bag around the roots."—Edwin A. Brooks, New Hampshire.

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Hardy Stock—"All the trees are in good condition, the growth being an exception in this locality where others set out are practically dead. This condition is partly due to good care, but the stock was hardy to start with."—J. F. McDonald, Queens Co., N.Y.

"3000 Mile Package"—"The order arrived safely. Your thorough method of packing would ensure perfect delivery any place that can be reached by mail, steam or mule power."—H. A. Frost, Kent Co., Mich.

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These two men stand foremost in America in their respective spheres as nurserymen and fruit-growers. Think what their counsel and help is worth to you. They have given the best of their practical knowledge and ripened experience in the new 1916 William P. Stark Book. Be sure and write for it today.

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You can't forget our address. The town is named after our nurseries.

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Because I get
—Hardy Ozark grown trees.
—Doubly guaranteed true to name.
—Larger, heavier root-systems.
—Shipped in the William P. Stark '3000 Mile Package.'
—And pay considerably less than agents charge me."

It's the Safe, Sensible, Money-Saving Way

With the William P. Stark catalog before you, you can pick out the fruit trees, berry bushes or ornamentals you need, leisurely, thoughtfully, with no tree-peddler at your elbow to hurry you into buying something you don't want. You know every variety is the best of its class, whether it be apple, peach, pear, plum, cherry, bush fruits, strawberry, roses or ornamentals. And you know the direct-from-nursery prices, printed in plain, bold figures underneath each variety, are the lowest possible consistent with quality. Make the saving. Get better trees. Buy direct from William P. Stark.

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Please mail me your 160-page catalog. I am interested in

—J. H. Hale Peach —Delicious Apple

—Apples —Plums —Ornamentals

—Peaches —Cherries —Grapes

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Approximate Number of Trees Desired.

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Address _____

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Totally unlike any other nursery catalog. Gives complete practical description of fruit, season of ripening, where each kind does best, which are best money-makers, habits of growth, right planting distances, etc. Illustrated with over 200 photographs. Same low prices to all. Coupon or letter brings your copy FREE by return mail.

J. H. Hale peach trees are grown and sold exclusively by Wm. P. Stark Nurseries.

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The Oldest
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GREEN'S FRUIT GROWER

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Volume 36

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Number 1



Getting Ready For Spring Tree Planting

By C. A. Green



In tree planting, as in almost every kind

of business, it is well to plan ahead. This is necessary in order to have the land properly prepared for the tree. I do not favor planting an orchard on freshly turned, stiff, meadow sod. I have seen successful orchards thus started, but it is not good economy to plant a commercial orchard until the ground has been well prepared and the sod well rotted, as would occur if the land had been planted to corn, potatoes, beans, or some other cultivated crop the season previous to the tree planting.

Order your trees as far in advance of planting as possible. Remember that the nurseryman cannot manufacture trees in a few weeks or months, and that if you delay ordering until late in the season it is possible that the nurseryman may not have the varieties you desire. Sometimes those who have decided to plant trees in the spring order them in the fall or during the early winter months. On rare occasions they have been ordered two years in advance where rare varieties were desired.

Notwithstanding the above suggestions, nurserymen are continually booking orders from September and October all through the fall and winter months up almost to the first of June.

What I have said about planting trees in sod ground does not apply to garden planting or planting for the home supply of fruit, or planting ornamental shrubs and trees, for these in many instances must be planted on parts of the lawn set aside for that purpose. Vines, shrubs and trees can be made to succeed and to grow vigorously in grass plots in the lawn by removing the sod from a space not less than 2 ft. in diameter. Do not mix the sod with the soil beneath. After excavating a little deeper than the tree originally grew, place it in position and cover with fine earth packing in the soil firmly with your feet. After this is done and the tree is planted, then invert the sods, placing them in the form of a mulch on the surface of the soil over the roots of the tree. If this sod mulch is relied upon entirely to keep the soil moist, the sod should be moved occasionally during the summer, but usually we add a forkful or two of straw manure or litter over the sods, and this holds the moisture and prevents the sods from beginning growth again. Nothing holds the moisture better than inverted sod.

Every day I see evidence of the above suggested plan of planting in our city parks. Many thousands of shrubs and trees are planted each season in sod ground, but the expanse of sod is larger than that ordinarily made by planters, usually from 2 to 3 ft. across, and after the tree planting a substantial mulch is continually kept in place and is renewed each season, and often consists of rotted barnyard manure. Trees thus planted in sod make marvelous growth and scarcely any of them fail to survive planting.

At What Age Should Trees Be Planted

Tree planters are liable to be misled by hearing it so often stated that two year old trees are the best age for planting.

This applies well to apple, pear, plum, quince and cherry trees, but will not apply to peach trees, to evergreen trees, or many kinds of ornamental trees. Peach trees are never sold when more than one year old. Evergreen trees are often three to five years old when transplanted and yet are not overgrown. All maple, beech or oak trees, or the horse chestnut, may be from five to eight years old before they are large enough for street planting. I caution planters in regard to planting large evergreens. Planting evergreens is something like planting apple trees with all the leaves on, which you must concede would be a difficult job. Since evergreens always are filled with foliage, they must be handled with great care and not left exposed to the slightest degree and must not be overgrown. Nothing is gained by planting a very large evergreen tree. A vigorous young tree not over 2 to 3 ft. high is the best size to plant of the evergreens.

What To Do With Trees When They Arrive

If possible remove the trees from the box at once on arrival and heel them in securely in the garden. I mean by this give them a temporary planting in a trench, which prevents the roots or branches from drying. If they cannot be removed from the box at once and the packing material gives evidence of being at all dry, apply water to both ends of the box, where the roots are located, keeping the box meanwhile in as cool a place as possible. A cool cellar is a good place to keep the box of trees waiting for the day of planting.

Pruning The Trees At Or Before Planting

Tree planters are advised year after year to cut back the branches of trees at planting, but there are few planters who obey these instructions. Many planters are of the opinion that the larger the number of branches and the longer the branches, the sooner the trees will come into

bearing. They dislike to disfigure trees by cutting back the branches.

If I were planting fruit trees I would on removing them from the box at once cut off more than half the length of every shoot or branch, doing this work before planting. If this cutting back is not done before planting I advise that it be done immediately after planting. I hope to show by photographs how trees should be headed back at planting.

Peach trees more particularly than any other kind of trees need to have their tops cut back severely. When I plant peach trees I cut off all the branches close to the body, leaving simply a stubby trunk 3 to 4 ft. high with every branch removed. The lack of such severe pruning is why many do not succeed in planting the peach.

Some people report trouble in planting sweet cherry trees though they succeed in planting the hardy pie cherry. One reason for this failure to succeed is owing to the fact that they do not head back the trees as closely as they should. Sweet cherry trees are vigorous of growth, and when sold the branches are often 3 to 4 ft. long. Such branches should be cut back so that they are simply stubs of branches 6 to 12 inches long.

How To Transplant The Strawberry, Raspberry And Other Small Fruit Plants

The roots of the strawberry and of the tip raspberry plants are the most delicate, sensitive and most easily injured of all plants in transplanting. I have known inexperienced planters to drop these perishable plants along the line of the row and leave them there exposed to the sun and wind while the planter who follows is slowly approaching. By the time the planter reaches the plants dropped in advance, the roots have partially withered and have lost at least half of their vitality. Then the unwise planter is liable to complain that the plants were dead when he received them. What the planter should do

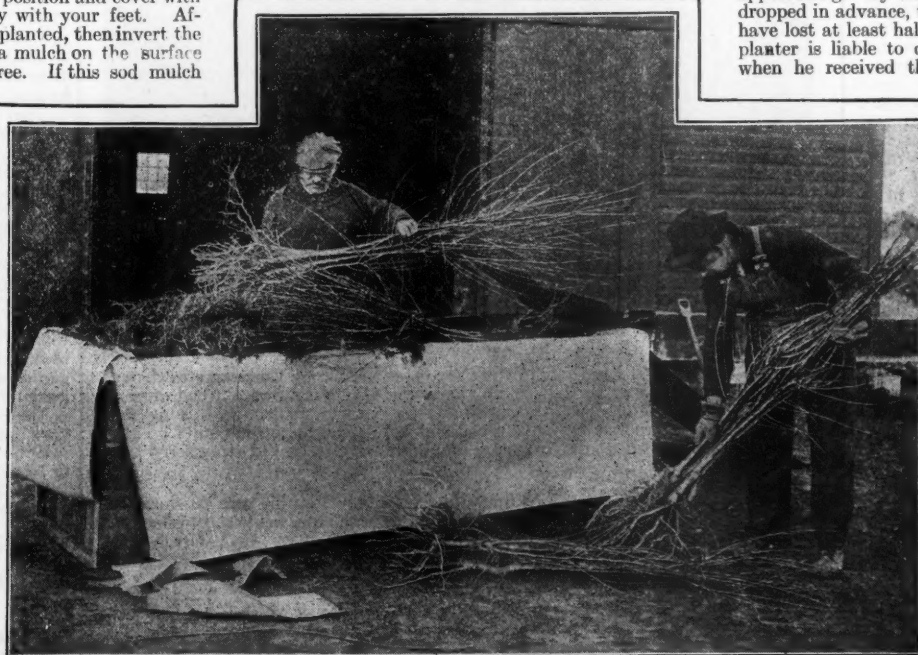
is this: he should take a pail and keep constantly an inch or two of water in it. Then he should place the roots of his plants in this pail to be left there until one after another is removed for planting. By this means each plant goes into the soil as fresh as when dug and will begin immediate growth. Bear in mind that rugged trees, such as the apple and pear, will stand much more exposure than these delicate roots of the strawberry and raspberry.

Protect Young Apple Trees

Bunches of long grass, or split corn stalks may give good protection against rabbits but fail to keep mice from doing harm. Newspapers or tar paper wrapped around the tree trunk have been successfully used by many orchardists.

Paint and washes do not give good results as the rabbits sometimes seem to attack the washed trees more than the untreated ones.

Damage from mice should be avoided by the removal of all loose, trashy material from the neighborhood of the base of the tree trunk.



These trees were received well packed
Notice strong box, stout building paper which in addition to the moss and excelsior helped to retain moisture for long shipment

Banana Apples in South America

During the summer of the Southern Hemisphere the American apple season is at its height in Buenos Aires. The first apples of the season were some Gravensteins, encountered during the month of September in a small town in the interior of one of the southernmost territories of the Republic. They sold for the very reasonable price of 1 peso (\$0.42) per dozen and had come some 11,000 miles, all the way from Sonoma County, California, says The Pan American Union. During the season of 1914 and 1915 the apples most prominent in the capital were: Rome, King, Spitzenburgh, Stayman, Jonathan, and Delicious; there were a few boxes of Oregon Beauty and some splendid specimens of Winter Banana. By March the New Zealand product began to appear and by June was more plentiful than the American. The small dealer buys apples at from \$5 to \$7 per box and retails the fruit at from 75 cents to \$2.50 per dozen. A fair idea of the prices may be gained by taking a box containing 80 apples; for this the dealer would have to pay to the importer \$5, selling the same again at \$1 per dozen. The market was flooded with Delicious last season, although it still, with the variety Winter Banana, sold somewhat higher than other varieties. Delicious running 56 apples to the box of 40 pounds retailed at \$1.75 per dozen and some Bananas of equal size \$2.50. On the better varieties the dealer makes about 50 per cent. A large department store situated on Buenos Aires' most fashionable shopping street often made a special feature with a very attractive window exhibit of American boxed apples at a somewhat reduced price. It is both remarkable and curious what a hold the word California has upon the minds of the outside world. It is known to practically every Spanish and Italian immigrant with whom one comes in contact, parties who usually also have heard of New York and Chicago, but to whom such names as Kansas or Pennsylvania would be as from the ancient classics. The exhibits of apples were nearly always labeled "Manzanas de California" and at times as "Manzanas del Canada" or "del Oregon," although every single one of them, and nearly every other box of American apples encountered in Buenos Aires, came from the Wenatchee Valley, State of Washington. The same can be said of the source of the pears seen there, among which were such varieties as Onondaga, Anjou, and Flemish Beauty. Barreled apples from the Eastern States and Nova Scotia, represented almost entirely by the variety Ben Davis, were consumed in the capital more for culinary purposes and much shipped to the interior towns. They were the apples generally found on the dining cars of the railways.

What Varieties of Apples to Select

A Pennsylvania subscriber of Green's Fruit Grower asks the above question. In reply I will say that I can mainly only give suggestions and name the most popular and successful varieties for the country at large, realizing as I do that each state or section of each state has varieties that succeed particularly well in those sections, but do not succeed so well in other localities.

Baldwin, Greening King and Spy have been the popular apples and the profitable apples for the middle and eastern states, to which have been added of late years: McIntosh Red, Winter Banana, Maiden's Blush, Oldenburg, Yellow Transparent, Pound Sweet, Red Astrachan, Wealthy, Hubbardston, Delicious, Winesap and Stayman's Winesap. For a commercial orchard I would not embrace so many varieties as are in the above list. For your locality the York Imperial, a handsome red apple, is popular as a market variety, also the Winesap, Stayman's Winesap and Jonathan.

A good plan for the planter of apple trees who desires information as to varieties is for him to plant one tree each of ten or twenty varieties in a row across some field or a corner of a field, the trees to be only 6 to 8 ft. apart in the row, but not to be crowded on either side by other trees. The planter of these trees will take great pleasure in watching their development and in comparing one variety with another, as seen in his peculiar soil and location. By this experience he will find that certain varieties do very much better in his locality than they do in other localities. Trees thus planted will continue to bear fruit for fifteen or twenty years, after which every other tree should be cut out.

One figure expert estimates that rats cost the country \$100,000,000 a year, and now comes another with the information that flies cost us \$157,800,000 annually. If it were not for rats, flies, crop pests and such things, none of us would have to work at all.

No House Storage of Apples

The following fact has lessened apple consumption: Nearly half the people in large cities now live in "flats" or "apartments" with no cellar-storage even for one barrel of apples, says The National Stockman and Farmer. But they can store a bushel box in a reasonably cool place and are beginning thus to buy and store the Pacific coast apples. Herein lies a hint. We eastern and middle west growers must learn from our far-west competitors on three points, proper packages, perfect specimens and grading, and concerted action in pushing our product upon the market. Grocers dislike to handle barrels and consumers hate to buy and store so large a quantity; but they both like the bushel box with every apple in it perfect. And its increased use will check the fruit-stand buying and the quart and quarter-peck ordering from the grocery with expensive delivery and consequent high price and lessened consumption. We can do this and succeed.

The Tent Caterpillar

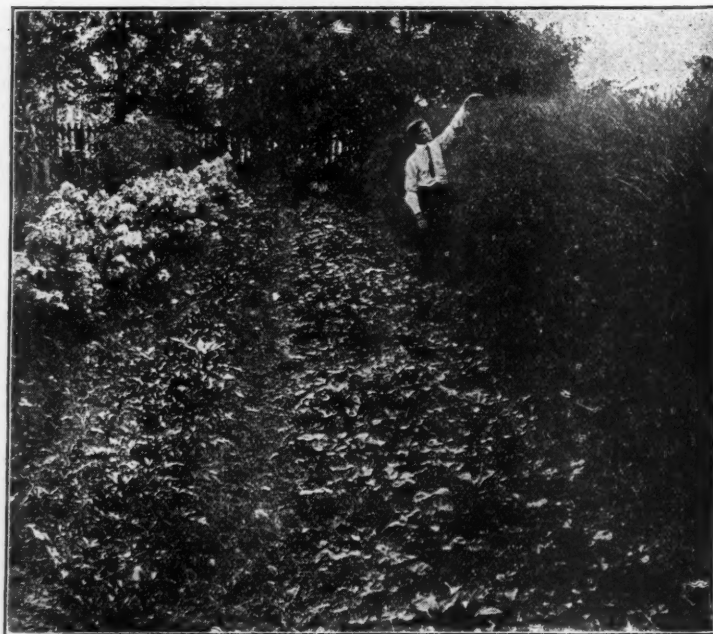
The apple tree tent caterpillar which was in great evidence last year is promising more destruction during the coming season. Prof. M. A. Cobb of the agricultural department of the Central Michigan Normal School finds that there are millions of egg masses fastened on the limbs of the fruit and forest trees. These masses can be gathered and destroyed at this season of the year and it will do much to reduce the number of the pests that come out next season.

Last year many orchards were nearly defoliated by the tent caterpillar and large apple trees were found which contained from two to fifteen tents. The growers often burned them out with torches before they had consumed all the foliage on the tree but this difficult work in thickly fested orchards and where the egg masses can be destroyed, that is the surest way of reducing the number of the troublesome pest.

"The great error of our nature is not to know where to stop."—Burke.

When a small man is given authority he invariably decreases in size.

STRAWBERRIES AND ORNAMENTALS



The central right hand row in the above photograph are Corsican strawberry plants set out last July by digging up the young plants from an old bed after a shower, with a spadeful of earth attached to the strawberry roots. By this method the plants and the roots were undisturbed and were equal to potted plants. They cost nothing provided you have young plants growing in an old strawberry bed on your place.

The row to the right, where the young man is raising his arm to show its height, is a row of ostrich plume ornamental grass, which is made most effective at C. A. Green's place as an ornamental plant of great beauty. C. A. Green says he knows of nothing more attractive in beds or as single plants than this ostrich plume grass. It is easily transplanted.

The row to the left is part of a row of perennial phlox of which C. A. Green is making a specialty. These flowers have made a brilliant showing at C. A. Green's place every year. It is the most easily transplanted and grown and the most satisfactory in every way of any flowering plant that we have had experience with.

What of the Night Fruit Season

After this season there will come another. When the fruits of this year are gathered and have been turned into cash and the grower has received the reward for his past year's labors, there will come the time when he must take up his work anew and prepare for the maturing of another crop. We have not the power to know what the coming year has in store for us. We do not know whether we shall be rewarded with a bountiful crop bringing sufficient returns. We only know that we must do everything in our power to bring it through to the highest point of perfection that is in our power. We do know that a certain amount of cultivation is necessary. We know we must do the thousand and one things necessary to have our orchard factory clean and sweet in readiness for the coming of spring with its bloom and setting, says Portland Oregon Distributor.

We know that we must overcome the pests that are always with us, to whom we have been too friendly in the past. As we enter the coming season we should all be prepared to spray thoroughly and completely—more and better than we have in the past.

The one thing we are sure of is that if we do not overcome the army of pests there will be no opportunity for profit. We must enter the season blindly, do the things we should do and do them thoroughly. The results of our labor this year may be felt for years to come. We may expect to receive the ample reward of hard, clean labor either next season or later. We may know it will come and that it will be ample and sufficient for the energy, time and money spent in its accomplishment.

Faith in the unseen and unknown is the solace of the race; the vision of the mind is greater than that of the eye. The nobler faith will be with those who open all the windows of their soul to the light streaming from the inexhaustible source of truth that floods the world.—Milton Reed, in "The Sea of Faith."

It's the man who has nothing to do that doesn't have time to do anything else.

Tree Planting on Highways Near Rochester, N. Y.

The men whose farms and estates line the highways in the counties of Genesee, Livingston, Monroe, Ontario, Orleans, Wayne and Wyoming, have vision, love of trees, an appreciation of the beautiful, coupled with a desire to win from increasing numbers of tourists, praises for the beauties of this wonderful Western New York countryside.

Among suggestions sent to the local committees in twenty-two villages, are these:

That a good beginning in highway tree planting in the seven counties should be made this spring.

That the American elm is first choice of tree for highway planting.

That these elms should be planted 80 to 100 feet apart, and that when on both sides of the road they should be staggered.

That the Napoleon cherry tree, apple trees of standard variety or nut trees might be used along less important highways.

That in many places American elms can be had at very little cost.

That the district committee would do wisely if they co-operated with their local granges, their supervisors, town superintendents, school superintendents, school teachers and school children. State Grange Master W. N. Vary has warmly endorsed the Community Council's tree planting program.

That when sugar maples are substituted for the American elm, there should be no topping of the central stem, if, at the point of cutting, the stem is more than 3/4" in diameter. Seventy-five feet apart is suggested for the sugar maple.

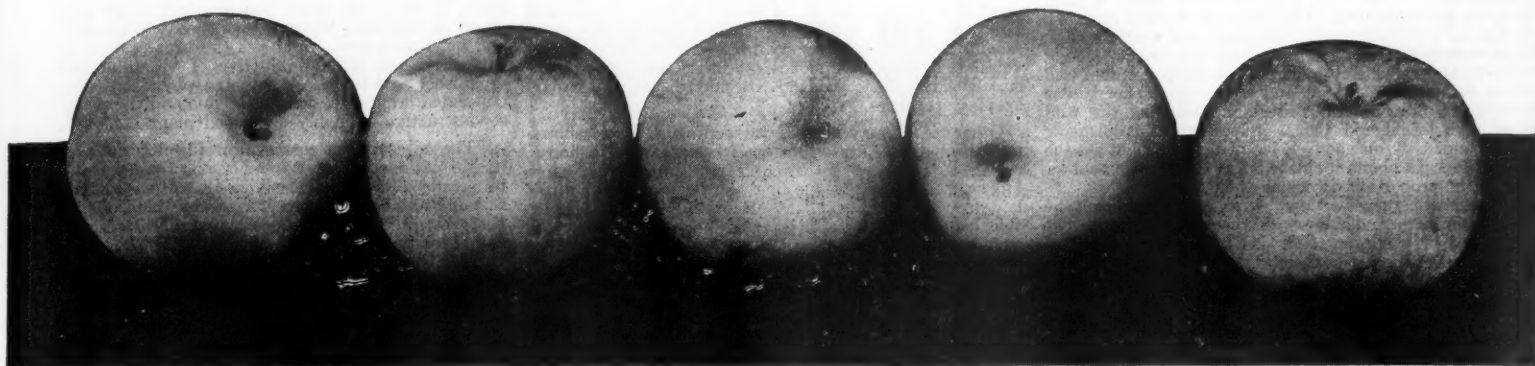
That the spreading of elm tree roots back into adjoining farm or orchard land may be avoided by plowing a deep furrow or trench on the field side of the tree.

That fruit or other trees apt to be girdled by mice or rabbits, can best be protected by 1/4" mesh galvanized wire screen, bent to encircle the tree, making a lap to allow for tree's growth; width of screen to be 18" to 24".

"We don't print any such stuff as that," said the editor loftily, as he handed back the manuscript. "Well you needn't be so haughty about it," retorted the Irregular Contributor. "You're not the only one who won't print it."—Puck.

History of the McIntosh Apple

Though New to Most People It is 119 Years Old



MCINTOSH APPLES

As editor of Green's Fruit Grower I receive almost daily samples of seedling apples, wildlings that have sprung up in the hedge rows and along the line fences in various parts of this great country. Our readers do well to take an interest in such fruits, for it is possible that thereby they may discover a variety worth millions of dollars to America, though it must not be expected that a majority of these wild fruits are worthy of introduction.

This was the way in which the McIntosh apple, famed for its great beauty, high quality, hardiness and great productiveness, had its origin. John McIntosh found a number of seedling apples springing up in a secluded place on his Canadian farm. Having no orchard, he planted these trees. The climate was so severe in that portion of Canada that all these trees died but one, and this one is the variety now known as the McIntosh Red. This

apple, which has been worth millions of dollars to the United States, and which is known only to comparatively few people, was discovered in the year 1796. Think of this notable fact, which is that the McIntosh apple, so valuable, has scarcely become known throughout this country though it was discovered 119 years ago. Here is evidence of the fact that the general knowledge or information of the American people on varieties of fruits travels slowly, or in other words, it takes a long time to bring about the general cultivation of even the most valuable varieties of fruits.

In the year 1893 Mr. McIntosh's house was burned and the McIntosh apple tree, located within 15 ft. of the house, was seriously injured, and yet it survived for several years and finally perished, but the fame of the apple had spread in the locality of its birth, where scions had been

grafted into other trees, and thus this great apple was rescued almost as a brand from the burning. How great the loss had John McIntosh, like many others, been negligent about tree planting.

That the later day fruit growers have appreciated John McIntosh's action in connection with the apple that bears his name is indicated by the substantial monument which has been erected at its birthplace. There are not many varieties of apples which have received the honor of the erection of a monument. Those which occur to me as having been thus honored are the Baldwin, Primate, Spy and Wealthy. There are many other apples that are worthy of a monument. Some of the data used in this note was found in L. H. Bailey's Standard Cyclopedia of Horticulture, a most useful publication.

Apple Orcharding

We believe that the best opportunities to diversify the apple farm—especially where lands are high priced and where there is an overhead cost, taxes and interest on investment, of from \$30 to \$50 an acre—is by the growing of more than one kind of fruit. We doubt if there are many types of farming other than fruit growing that will pay as good a dividend on an investment of over \$500 an acre, says Fruit and Produce Marketer.

Regardless of location, soil or climatic conditions, where fruit is raised there is no doubt that the fruit grower should under all circumstances have a good garden; should raise enough pork for his own use; should keep a family flock of chickens and a good cow. He should also endeavor to raise all feed necessary to maintain all stock on the ranch.

Where climatic and soil conditions favor cheap and abundant pasturage and where most of the concentrates necessary may be raised on the farm or obtained at a reasonable price, hogs have proved a profitable investment with orcharding.

The only opportunity for the orchardist in the Northwest to make a profit from dairying in conjunction with his orchard, is by having a superior herd—better than the average—and by producing on the ranch the major portion of all feed consumed.

There is perhaps no one orchard operation which will probably allow more economy than that of tillage.

The greatest loss from the use of fertilizers and manures comes from the tendency of many growers to buy mixed fertilizers.

Perhaps the greatest loss in pruning comes from a lack of knowledge of fundamental principles of pruning, and of the application of these principles to the orchard and to individual trees.

Large sums of money are lost in improper spraying.

Lack of facilities for scientific handling of the crop often causes a loss.

Unskillful organization and handling of labor is responsible for the loss of much money.

One of the greatest drawbacks in the past has been the absolute independence of the selling agencies.

Not enough attention has been given to the relation of the size of crop, the general market conditions of any one period, and the proportion and amount of fruit that is held in storage.

We strongly urge the establishment of a Bureau of Statistics and a Protective Fruit League.

The causes of a large percentage of low-grade and cull apples are choice of wrong varieties, too many unprofitable trees, poor management, and unfavorable climatic conditions.

Start a Berry Patch

When planning for next year's crops have you thought of starting a berry patch? If not, now would be a good time to think about the matter. A small amount of time and money invested in berry culture will bring you an inestimable amount of pleasure and profit. Perhaps, the most profitable berry to grow, for those not located near a large town or city is the raspberry. Almost any variety of berries may be made the source of a splendid income; without a great deal of hard labor, if properly managed.



The above picture is not introduced so much to show off the good looking, stalwart, young man, as it is to illustrate the opossum, which is scarcely known to our readers of the eastern, middle and northern states. I have been told that the ears of the opossum are in his tail. I have also heard this fact denied. The mother opossum is an interesting sight with her numerous progeny clinging to her fur and being carried about as she scrambles among the branches of the trees, with their tails tightly wound around hers, or about her limbs or neck. Their tails are of vast service to these animals, enabling them to use all four feet in food-gathering while suspended by this useful fifth member.

Nursery and Seed Orders

Now is the time to study catalogues in preparation for the selection of garden seed and nursery stock. These catalogues are practical and deserve careful reading if they come from the honest advertisers who are using the columns of practical journals. The reliable journal protects its readers as never before and there is little danger in selecting seed and nursery stock from its advertisers, says the Farmer's Guide.

In buying seed and nursery stock it is best to select varieties that have been proven successful in the community. The right varieties to plant can sometimes be found in the catalogues, but, if they do not mention the desirability of their varieties for any special locality; this information may be acquired by asking experienced growers or by inquiring of the state experiment station.

Do not fail to include a few good vines in the order if the house has been bare on previous years. There is nothing that will improve the homelike aspect of the farm house like a bright green climber.

It is better to order the supply of flowers, vines and trees from a reliable nursery man instead of purchasing them from chance agents. All of the agents are not dishonorable, and possibly they may be very worthy men who have selected the work because of a lack of steady employment. However, they are very anxious for orders and often will lead the buyer to order things that are not necessary while the real important parts of the order are neglected. A few hours' work with the pencil, paper, and catalogue will enable the buyer to plan his order fairly successfully without the influence of the strange agent. There is a danger in patronizing the representatives of unknown companies especially in buying fruit trees. The results are not known for several years and then it is always too late to remedy any mistakes in filling the order.

It is good business to place the order early as the nursery companies are very busy in the early spring as all too many buyers put off their selection until nearly time for the planting. At that time it may be impossible to obtain the desired varieties for an early shipment. In the laying out of a new orchard there is nothing more discouraging than to find the weather just right for the planting and no trees on the road to begin the work. The same applies to the placing of seed orders. The value of the seed and nursery catalogue consists largely in a certain inspiration that it seems to give to the buyer. It is hard to look at the illustrations in a good catalogue without believing that the same results can be achieved on your own farm, and it is hard to study a collection of those alluring colored plates without forming a resolve to give the orchard, the berry patch, and the flower bed just a little bit better attention during the year 1916.

Using Shrubs Wisely

Written for Green's Fruit Grower by
F. H. SWEET, Va.

For small front gardens where the houses are from four to twenty feet back from the sidewalk, the planting along the house foundations alone is generally enough. Most of this planting should be of low-growing material. Many people do not take the final height of the shrubs into consideration. There are a great many small shrubs. To give a few examples: Thunberg's spirea and the small deutzia are a delicate spring combination of white flowers; hypericum and Indian currant give a midsummer bloom; barberry and snowberry make an attractive autumn and winter combination of red and white berries; kerria has vivid green branches in winter; and some of the wild roses have bright red twigs. Success in this planting depends not only on good choice of material, but on the way in which the plants are placed in relation to one another and on the proportions in which they are used.

Large-growing shrubs, small trees and vines can be used at the corners of houses and wherever they are not in the way of windows. The combination of shrubs of different heights is an interesting problem, and one that offers as many solutions as there are different kinds of houses and different kinds of window spacing.

There are many ways to vary the out line of the border, and the width of the border will vary its outline. A width of from three to five feet is enough for a single row of shrubs, but seldom will the use of a single straight row be the best way in which to make the border.

The study of shrubs for combinations of blooming effects, for continuance of bloom, for autumn and winter coloring, for contrasts and harmony of foliage effects, for changes in height, is fascinating and perplexing. All these elements must be considered in relation to the shrub border along the house front.

It is only when one takes up the study of shrubs that he realizes their number and the many different varieties of each kind and the marked difference in these varieties. There are infinite possibilities in the small lot front in the single instance of variety in shrub material. No two lot fronts need look alike if a careful selection is made of all the available material for a good planting. If planting were done along each house foundation, it would give a continuous line of varying shrubbery on either side of the street, which, together with the street trees, would make a veritable parkway.

It Pays Well To Store Ice

Written for Green's Fruit Grower by
J. S. UNDERWOOD, Illinois

Having found, the past few summers, the comfort of living greatly enhanced by having an abundant supply of ice, I shall certainly do my best to fill the icehouse again this present winter. Not only is the matter of family convenience and comfort a consideration, but we have been able to render important aid and benefit to our neighbors in time of sickness. With a supply of ice constantly on hand during the summer, fruits, fresh meat, dairy products and other provisions may be kept in good condition for weeks where otherwise they would spoil in a short time. The boys and girls, and old folks, too, crave ice cream, lemonade, and other home-made delicacies, which may be served every hot day where ice, eggs, cream, etc., are at hand.

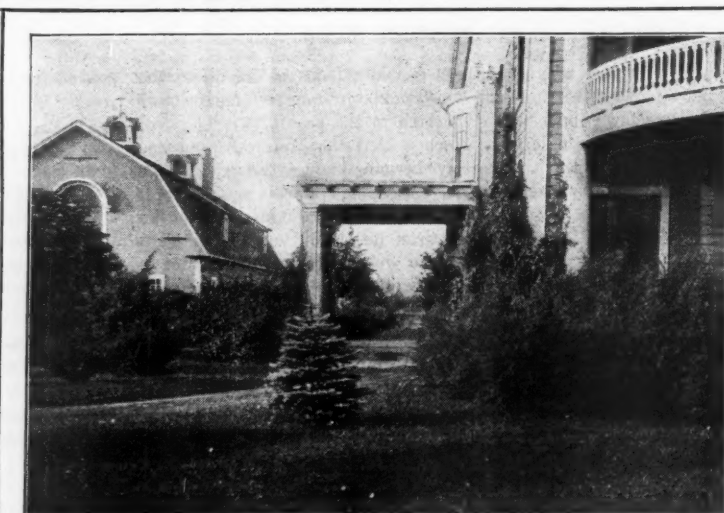
I filled my icehouse last winter at a cost of not more than \$15. It lasted until well into October, when the weather was cool enough to dispense with the use of it. During the entire summer season we had an abundance of cool water to drink and in addition kept fruits and other food products cool, fresh and sweet. During the hot weather there chanced to be some cases of protracted illness in the neighborhood and we were glad to be able to give the sick many pounds of ice. Before I commenced to store ice my ice bill was about \$30 a season, so that, as an investment, the icehouse has paid well.

Why cannot all fruit growers and farmers put up a good supply of ice? I am sure that in the long run no other similar investment of time, labor and money will make better returns. The construction of a house sufficient to hold ice is not an expensive matter. The building should be so located that it will be near the dwelling and protected by shade trees, if possible, during the heat of the day. Good drainage is also an item of much importance, which may be obtained by a filling of gravel or proper grading in and about the building. The walls should be double, with a six-inch space between the boarding. This may be packed with sawdust or some other non-conductor of heat. Clover chaff may be substituted for the sawdust, provided the boarding is made with matched lumber on the outside of the building. If there is a portable saw mill in the neighborhood it will make material for the frame and inside boarding. In the absence of a mill the material will, of course, have to be purchased from a dealer.

Sawdust should be obtained for packing the ice, and the ice should be cut and packed when the weather is below or around zero. This precaution will aid its keeping

qualities and at the same time prevent a possibility of the blocks freezing together from dripping during the process of packing. Clean snow is also an excellent material for filling between and leveling the blocks of ice as they come into the icehouse. No open spaces should remain unfilled, because they may become connected with the air outside and thus the ice will melt away quickly about them. Six to ten inches of sawdust should be firmly packed between the ice and the inside boarding. Chaff is sometimes used for this purpose, but it is not equal to sawdust as a non-conductor of heat. The mass of ice should be covered with at least twelve to fifteen inches of dry, clean sawdust. This matter is a very important one, because good ventilation must be provided; otherwise moisture will accumulate over the ice, which is a decided disadvantage to its keeping properties.

Other means may be used to keep ice and no icehouse need be built. But I think it is best to build a house, as one is then sure of the ice keeping properly. I have known men to simply pile up a big heap of ice on straw laid over poles on a slight elevation, covering the ice thickly with straw, and it seemed to serve nearly as well as a house. One man kept ice the entire season on the north side of his barn. He left a space of about two feet between the side of the barn and the ice and into this packed straw good and tight. He then covered the pile with a thick roofing of straw so as to shed rain. This ice kept fairly well from one season to the next, and of course



Attractive planting of shrubs, vines and trees at a farmer's home near Rochester, N. Y. Near the porch are dwarf barberry. Climbing at the side of the porch is clematis paniculata, the beautiful flowering vine, looking like balls or wreaths of snow when in bloom. In the center of the foreground is the blue spruce. In the back ground at the left, in front of the barn, is catalpa. The shrubbery in front of the barn and at one side of the barn consists of purple barberry, spirea, lilac, hydrangea, althea, snowball and mock orange.

that is all one can expect.

All who want to provide a luxury for themselves, and benefit any who chance to be ill the next summer, can, with a little trouble, secure it.

Improve Your Home Grounds

Beautiful grounds can be obtained without a lavish expenditure of money and without a sacrifice of convenience. Since the house is the center of all home activities, too much attention can not be given to its location. If possible, the home should be set slightly above the land immediately surrounding it, but not too high; see that the view from the windows of the rooms most used are the best ones to be obtained from your particular location. Select your type of house with a view to making it fit in with its surroundings. A smoothly graded lawn is more easily mowed, as well as more beautiful. Lawns should be kept clear of flower beds and also of many single trees and shrubs. A little planting about a house, some large trees, with most of the plantings along the boundaries, looks best. Unsightly objects that are necessary, may be covered up with planting.

Do not chop up your grounds with paths, says the bulletin. Lay out walks with a purpose, that purpose being to make them lead somewhere, without cutting across a grass plat or spoiling the general appearance of a lawn, and then make them beautiful with shrubs and trees that lend themselves to such uses. Oftentimes, these shrubs and trees may be of a fruit-bearing type, thus serving a twofold purpose.

In the bulletin published by the landscape authorities of the college of agriculture are diagrams showing the proper arrangement of home grounds in relation to the house and out-buildings, and a classified list of trees, shrubs, and flowers. A general description of each plant and tree is given, from which selections can be made with an intelligent conception of the general appearance of the tree or plant, its height, its foliage, its blossoms if it has any, and its habits.

A copy of this bulletin may be obtained by any resident of the state on application to the New York state college of agriculture, at Ithaca, New York.

Soil Promotes Health

"As a matter of fact, normal soil is a natural and beneficent bacteriological laboratory, various nitrifying bacteria promoting growth and others decomposing humus and organic matter, thus rendering it available as plant food. But when natural conditions are disturbed, the bacterial balance is also disturbed; and fungi, molds, algae, and other organisms proliferate, to the detriment of man and animals. Note, it is not so much bacteria but other organisms which proliferate. Disturbed soil needs to be cultivated, and cultivated well. And yet the processes of artificial cultivation are often productive of vegetable forms of diminished resistance, as note the phyloxera disease of cultivated grapes, the various blights and the root growth so destructive of highly developed plant life. . . .

"The soil is a great conservator of health, not a menace; its life and death processes are among the most wonderful in nature. 'Back to the soil' needs to be a health slogan as well as an economic one. But what kind of soil? The best answer is that of modern scientific farming, which conserves the soil as well as man. Science was long a very artificial thing; but it is now being naturalized. And the encouraging thing is that science pays in efficiency and dollars and cents. Scientific farming is not only the most profitable, but it is one of the greatest conservators of public health.

"And yet how foolish some sanitarians are! One alleged scientist recently stated that he would as soon his children played with poison as with earth, as all of the pathogenic bacteria came from the soil. And another 'city builder' wishes that not one blade of grass be allowed to grow within the limits of the city. Children know better, and 'scientists' should.

"Let us get back to the soil and the sun! Let us cease contaminating the soil and the atmosphere, and sanitation will progress by leaps and bounds. Sanitarians are, perforce of circumstances, compelled to make insanitary conditions tolerable; but what a great work could be done were these unnecessary conditions removed and the sanitarian allowed to devote his attentions more to man in a proper environment! Man himself is the great problem, after all. This world is a place 'where every prospect pleases and only man is vile.' Too long have we blamed our troubles upon this good old earth that we have abused so sorely. Let us begin with ourselves and let the earth wag along as the Creator intended it should."

The bird bath should be a feature of every garden—for the health and happiness of the feathered folk and for ridding the vegetation of destroying insects. The bath induces the presence of the birds, and they pay well for their frequent swims.

Fertilization of the Orchard

M. B. DAVIS, B.S.A., Experiment Farm, Ottawa, Ont.

The question of properly fertilizing the apple orchard goes hand in hand with the topics of moisture and cover crops. Three elements of plant food are required by most soils and can be supplied either in the form of commercial fertilizers or in the form of barnyard manure. Which of these to use depends on the relative cost of each.

Where it is difficult to obtain barnyard manure, commercial fertilizers in conjunction with the cover crop will give just as good results as the manure. There is probably no better place for economic use of fertilizers than in the orchard, for here the humus content of the soil is maintained by the use of cover crops, and this is one thing that cannot be supplied by fertilizers of any kind.

Amounts to Use.

The quantities to apply per acre will vary to a considerable extent with the condition of the soil. On old run out soils where successive crops of apples have been removed without any applications of fertilizers being made, the amounts per acre required will be comparatively large for the first three years. The best indication of the needs will be the trees. If the trees are not making much growth, indications are that considerable quantities of nitrogen will be required to give them a start. In the case of nitrogen, after the orchard has been brought into good condition, a very large part of the nitrogen required can be obtained by the ploughing under of leguminous cover crops. Until the trees show signs of vigorous growth, one hundred and fifty pounds of nitrate of soda, three hundred and fifty pounds of acid phosphate and one hundred pounds of muriate of potash per acre should be applied.

After the orchard has been put in good condition, and if leguminous cover crops are used, this may be reduced to an annual application of fifty to seventy-five pounds of nitrate of soda, two hundred and fifty pounds of muriate of potash. If manure is used, it may be applied at the rate of six tons to the acre, which will supply about the same quantities of plant food per acre. If using manure, however, each year it would probably be better to leave out the leguminous cover crop every other year so as not to get too much nitrogen in the soil, for barnyard manure is generally fairly rich in that element.

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Trees Growing in Exposed Places

Written for Green's Fruit Grower by WILLIAM FUTHY GIBBONS, Pa.

WITH A NOTE ON STRAIGHTENING CROOKED TREES

It often happens, when trees are planted on the seaward or sunny side of houses or driveways, that the harmonious lines into which the branches would naturally grow are distorted and the beauty or fruitfulness of the tree diminished by the deformation caused by prevailing winds. This is especially apt to occur in cases where delicate, quick-growing trees are set on high hills or in exposed places by lake side or seaside.

But it is on the top of wind-swept heights or on the sea-shore promontories that summer homes are built for the sake of obtaining the breezes, and these exposed places are often without a vestige of shade. The orchard, also, should be planted where there is a good air-drainage; but in the winter this flow of air becomes a blizzard. Must we therefore refrain from planting in our orchards delicate trees, often those that will yield fruit the earliest? Must we wait for a decade or a score of years for the harder trees to grow? Or, if our less hardy shade or fruit trees have been deformed by prevailing winds, is there no remedy?

The writer has in mind a long driveway near Princeton, N. J., planted on both sides with soft maples, whose beauty has been marred by the sweep of the north wind across a large open pasture. The tree on the extreme northwest end of the lane resembles a stack of hay about to topple over. Oaks, beeches or pines might have stood against the wind, although in such a bleak spot even these sturdier trees would probably have shown signs of distress, but the maples seem helpless. Furthermore the slower growth of the harder trees makes the new householder hesitate to plant all his trees of the sturdier sorts.

In planting trees in exposed situations a good rule is to set those of slower and stronger growth in the places where the sweep of the wind is the strongest, choosing evergreens to form a windbreak for those that are more tender. An old rule in planting fruit trees was to incline the trunk to the northwest, or toward whatever quarter the prevailing winds arise, in order to provide against the deforming thrust of the wind. But a better plan is to stake the young trees. Set two stout stakes, two-thirds as high as the tree, one on each side of the trunk; put a leather or canvass collar about the stem and fasten it securely with ropes or cords to the two stakes.

But even this provision only insures that the trunk of the tree shall stand erect and will not prevent the top of the tree from being deformed as the tree grows older. In an orchard in Wayne County, Penna., where the west wind sweeps thru a funnel-like gap in the Moosic mountains, every tree top on the west side of the orchard has been forced toward the east until two-thirds of the branches of the tree lie on the east side of the line running north and south through the row of tree trunks. Some of these trees are now twenty feet tall.

Can nothing be done in a case like this where the orchard



is admirably placed for air drainage and suffers no damage from late frosts? I believe that much could be done by way of prevention and something in the way of cure.

To prevent deformation in a large orchard, choose as a buffer against the winds for the outside row those varieties of the most vigorous growth, like the Wagner or the Baldwin group. The Jonathan, Limbertwig, Dutchess of Oldenburg and other willowy trees would not resist the deformation of the wind, altho it must be said of them that they would probably hold their fruit on the long, yielding limbs. Better than the trees that have stiffer branches. In pear trees the Duchess will stand well against the wind and hold up its shape, while Clapp's Favorite is driven like a cloud before the blast. But the heavy fruited Duchess is a great sufferer from the high fall winds. It is not uncommon for it to lose half its crop by having the stems snapped in two. The Keifer makes an excellent wind-break. The sturdy Seckle, which the U. S. Department of Agriculture has marked as the standard of excellence for pears, stands up well against the wind and should be given a chance to defend its weaker neighbors against the storms. In general, pears will be found to suffer less from the deforming action of winds than apples, and may for this reason be planted in isolated spots to better advantage than almost any other fruit.

Pruning is the first means to prevent trees from losing their shape. The first year after the tree is planted, see that the exuberant growth on the south and east sides

of the tree does not rob the tree of its symmetry. To prevent this, cut back the over-grown shoots to balance the slower growth on the north side swept by the wind. This must be kept in mind for years and not at the beginning of the tree's history only. It is not meant to give here full directions for pruning, but the rule to cut back to an outside bud should always be kept in mind.

A common cause of deformity in pear trees, not to be charged to the prevailing winds, comes from allowing the tree to overbear. Branches that once stood erect may be permanently deformed by this sort of neglect, even though the limbs have been propped to prevent their breaking. It is much better to thin the fruit. Young trees are often weakened, and still more frequently ruined in shape, by being allowed to over produce. In order to repair the damage done to the tree, nature sends up a luxuriant crop of water sprouts, or suckers, to shade the distorted limbs, and to restore as far as possible the upright shape and balance of the tree. This kind of deformity can always be prevented, or if allowed to occur can be corrected in part by pruning away some of the water sprouts.

But no amount of care or pruning can prevent the branches that are continually being buffeted by the wind from yielding to the pressure. When the tree has been growing for 10 or 15 years it is well to adopt the following method of reformation: In the early spring, just before the sap begins to run, fasten strong cords to those limbs that have been forced out of shape by the wind and tie to stakes, bringing the crooked limbs back to shape and restoring the symmetry of the tree. The sap will deposit new cells in the bark which will harden into wood, thus bracing the limbs so that they will remain in the correct positions.

Young trees with crooked trunks, either from wind pressure or from distortion in the nursery may be straightened easily, as follows: Before the sap starts in the spring make about three parallel slits lengthwise of the trunk on the concave side of the trunk. This will arrest the flow of sap at that point, causing the bark to thicken. This in turn will produce a gnarled spot in the wood, like a wedge, exerting its force at right angles to the trunk, straightening out the most obstinate deformities. But this must be done while the tree is young, or the bark-wedge cannot exert sufficient force to bend the crooked trunk. This scheme is particularly useful in straightening up the Bose and other pear trees, which are, for some unknown reason, almost always deformed by nature.

From what has been set down here it will be seen that there is no reason to give up the hope of having slightly, symmetrical trees, even in the most exposed spot in the mountains, on the prairies or by the sea shore.

Fall or Winter Apples

The returns from this inquiry indicate that about 31 per cent or 22,000,000 barrels of this year's crop consist of early varieties and 69 per cent or nearly 50,000,000 barrels late varieties.

It is estimated that usually about 28 per cent of the total crop is of early varieties and 72 per cent late varieties.

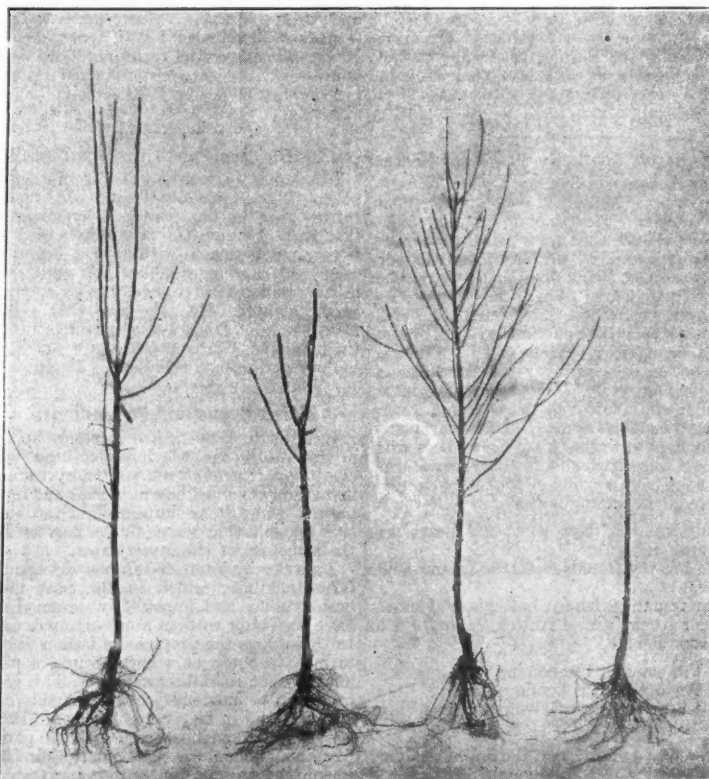
From this year's crop about 50 per cent of the early and 59 per cent of the late varieties will be sold from the farm or the orchard. Estimates for a usual year are 55 per cent of early varieties and 65 per cent of late varieties sold or marketed. These figures indicate that from this year's crop about 40,000,000 barrels will be sold, of which 11,000,000 represent early varieties and 29,000,000 late.

The quality of early varieties is estimated at 75 per cent for this year and 76 for a usual year. The quality of late varieties is estimated at 77 per cent for this year and 78 for a usual year.

The percentage of late varieties sold or contracted for by September 15 is estimated at 22 per cent this year and 28 per cent in a usual year.

About 50 per cent of the apple crop is estimated to be produced in commercial orchards; that is, orchards from which fruit is regularly sold for marketing in packages.

"In the woods the very sounds make the silence more evident and refreshing. The murmur of pines, the song of birds, the rustle and fall of leaves, the ripple of the brook, conspire to preserve the essential silence even while they seem to violate it."—Mabie.



Apple and Peach Trees
Showing them as they were received from the nursery and as pruned for planting.
(See Page 1)

Choose High Land For Orchards

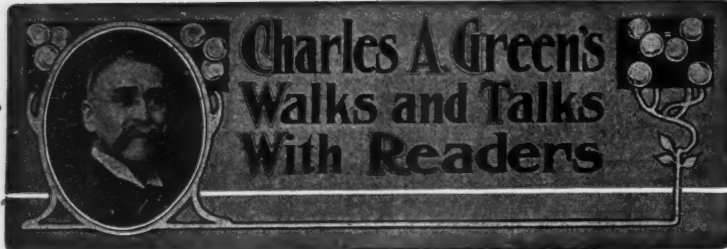
By JOHN E. TAYLOR, Maine

That apple orchards should be placed at a high elevation has been shown many times, but this year many New England farmers have found the efficacy of this idea and this season are harvesting normal crops of fruit where other farmers are not, getting many apples from their trees.

This was well illustrated on what is known as Hilton Hill in Somerset County, Maine where four farmers have about 5,000 trees each. S. H. Beal, Maurice Cayford, Lester Stevens and C. B. White own these orchards and they are harvesting crops equal to last year and of good fruit. The Hill where the orchards are located is about 500 feet above sea level. When the frosts came last spring and destroyed the blossoms of other orchards these were not affected and the result is a good crop, and apples are selling from the trees at \$4.00 per barrel of the Baldwin type, though most of the fruit on this hill is Ben Davis.

An illustration of an orchard on ordinary level, though a good orchard, where no fruit was grown this year on account of frosts and other weather conditions, is on the R. T. Patten farm. Mr. Patten usually has a good yield but none this year. If a farmer is planning to set out an orchard, get high land and fairly rocky.

Editors note. The above advice is good for the eastern states, but in some western localities profitable orchards are located on plains—prairie land.



TEACHING EFFICIENCY AT THE TEMPLE THEATRE

Oranges Wrapped and Packed at the Rate of One Bushel Box in Less Than Two Minutes. Three Boxes Made in Same Time

That the stage can be made helpful in various ways has been indicated this week at the Temple theatre. I allude to the number on the program classified as the Orange Packers, teaching the efficiency displayed in making boxes used for shipping oranges and in wrapping and packing the oranges in boxes. A young girl wrapped and packed ready for shipment, after the cover should have been placed in position, a box of oranges without using one useless motion, her hands and fingers moving like a carefully constructed machine, while at her side a young man having the heels, sides and centre support of an orange box ready at hand at the same time nailed three of these boxes together. There was a contest as to whether the girl could wrap with paper and pack one box of oranges while this young man was making three orange boxes. The girl and the boy completed their tasks almost at the same instant. The boy occupied less than two minutes in nailing together three orange boxes, while the girl occupied practically the same amount of time in wrapping and packing ready for shipment a box containing a bushel or more of oranges, all laid away regularly and compactly in layers.

Though the box maker could make an orange box in less than one minute, that is three boxes in a little less than two minutes, assume for a moment that he would like to be more leisurely and would like to occupy one minute in making an orange box, he would make 60 boxes an hour, or in a day of 10 hours, he would make 600 orange boxes complete except that the covers were not tacked on. In order to indicate how efficiency is displayed in this box making, I will say that a novice, an ordinary man in a day of 10 hours might not be able to make over 60 of these orange boxes, so here we have with efficiency 600 boxes made in a day, and without efficiency one-tenth the number, or 60.

As regards the packing of the oranges and wrapping, the girl would pack 30 boxes an hour, or 300 in a day of 10 hours, whereas an ordinary average individual might not be able without efficiency to wrap and pack 50 boxes. Surely it might not be possible for the above speed to be continued through an entire day, but nevertheless the illustration teaches the possibility of efficiency methods in almost every branch of human industry. I cannot in a written statement give an adequate idea of this exhibition or of its illuminating effects upon my mind. I recommend that as many business men as possible see this wonderful exhibit.

This exhibition discloses only one of the efficiency schemes of the orange growers of California, whose skill in management may well be copied by the apple growers of this country. The skill displayed by the orange growers of California in shipping and distributing their product is as marvelous as their system of packing the oranges and of making the boxes.

Standing By Farm Publications

Among the farm papers which have greatly delighted me through many years and which I find filled with practical suggestions, there is one which has stood well to the front in my mind and which I am led to suspect is not receiving the patronage which it deserves. I have known the editor and publisher for many years. He is a man of sterling worth. The active management now rests in the hands of his son.

I am led to ask you who read these lines, Are you sustaining by your patronage farm publications? If you are not, you are not doing yourself justice and you are not doing

justice to the faithful worker who is striving to make his publication of value and who has succeeded. I take the stand that every issue of a worthy publication is worth the subscription price for an entire year and may be worth many times more than this. One suggestion in regard to health may be worth to the farmer, his wife and his family a thousand dollars. One suggestion in regard to keeping up the fire insurance or the life insurance may be worth a thousand dollars. I have in mind reading this morning of a farmer whose barns were burned at a loss of \$3,000, the insurance policy having expired three days previous. A few suggestions in regard to the work for a certain month may cause you to remember something which you had overlooked, such a reminder being worth to you many years of payments of subscription.

Every publication has a department for the housewife. Who is there in the wide, wide world who is more needy of assistance and helpful suggestions than the overworked farmer's wife? If the editor makes suggestions that relieve this worthy woman of physical or mental strain, one issue of that publication may be worth hundreds of dollars.

What a helpful adjunct to the farm is the poultry department. Take away poultry from the farm and the place loses much of its attractiveness and the farm table lacks a notable source of supply of food and there is a loss of notable revenue. The farm publication should, and usually does, in every issue give enough value in suggestions for poultry keeping to much more than pay the subscription price.

Then there is the dairy. How easy for the helpful editor to make suggestions of great value to the farmer in managing his cows, their food, their health, and the management of the milk, the cream, the butter, or the eggs.

Consider the orchard, the few grape vines that clamber over the gables of the house, or the blackberry, raspberry, currant or strawberry patch. You can scarcely take up a farm paper that does not treat of these interesting features of farm life and give helpful suggestions.

In summing up the value of the farm publication, the farm paper, will you not consider that it is worthy of your support. Do not delay in sending in the renewal of your subscription.

"Old Black Joe" By Stephen Foster

Many years ago Stephen Collins Foster's name was a household word throughout this country. He was born in July, 1826, and composed the music and wrote the words of over 125 popular songs, among which are Old Black Joe, Nellie Gray, Old Dog Tray, Come Where my Love Lies Dreaming, Suwanee River, etc. Many of his songs have been forgotten, but one of them, owing to its pathos and its touching note of nature, survives the wreckage of the passing years. Old Black Joe is as popular and as dear to the hearts of lovers of negro melodies as ever. I am continually seeing the old white-haired negro, bent with age and filled with childlike religious fervor, emerging from a group of younger men upon the stage, beginning his song as follows:

"Gone are the days when my heart was young and gay;
Gone are my friends from the cotton fields away;

Gone from the earth to a better land, I know,
I hear their gentle voices calling, "Old Black Joe!"

I'm coming, I'm coming,
For my head is bending low;
I hear those gentle voices calling,
"Old Black Joe!"

A well known judge of the Supreme Court at Rochester, N. Y., though practically a young man, sometimes entertains his friends by appearing with cane in hand, with bent form and tottering steps, singing "Old Black Joe."

Freezing Berries and Other Small Fruits In Order to Preserve Them

How few there are who know of the wonderful changes brought about by the cold storage of fruits and other farm products. Large quantities of cherries, blackberries, red and black raspberries, huckleberries, etc. are frozen solid in cold storage houses every year and are retained in that condition until wanted for making pies or for other purposes. How long these berries and other fruits may be preserved when frozen solid is not stated definitely, but it is assumed that they will keep for years in good condition. We have evidence of this from the fact that in the arctic regions the summers are short but often warm, so that wild berries are produced in vast quantities and are in such abundance as not to be consumed by the wild birds or other animals. When winter comes on suddenly these arctic fruits are frozen and remain perfectly preserved thus frozen. When the next spring opens and the frost is removed from these berries the wild fowl feed upon them freely. An interesting question has been, Why do the wild birds, particularly the wild geese and ducks go so far north, and how is it they come back to the south so fast? This question has been answered by the freezing and preserving of wild fruits, furnishing an abundance of nourishing fruit the succeeding summer. We hear of instances of tropical animals found in blocks of ice with the food in their stomachs preserved, though these animals were encased in ice thousands or even hundreds of thousands of years ago. Surely "the world do move."

Information Wanted Relating to Nut Trees

The United States Department of Agriculture asks for information in regard to nut trees of unusual characteristics, such as thin shells, large nuts, plump meats, enticing flavor. The nut trees mentioned are pecans, hickories, black walnuts, butternuts, chestnuts, hazelnuts, filberts, English walnuts, beechnuts and chinquapin. If you have on your place or know of a tree of exceptional worth, you should address C. A. Reed, Nut Culturist, Bureau of Plant Industry, Washington, D. C., and if possible send him samples.

This action on the part of the United States Government indicates the increasing interest which nut culture is exciting throughout this country. We are importing annually millions of dollars worth of nuts, whereas we have in this happy land of ours a paradise for nut culture. We should be exporting instead of importing nuts. I would willingly give \$100 for a tree of a hickory nut, large, thin shelled, with fat and delicious meat, which grew in my father's garden when I was a boy on the farm. This tree was ruthlessly destroyed. Our former Associate editor started a pecan nut orchard of nearly 1000 acres in Louisiana.

The Niagara Peach in New Jersey

I have just received a letter from a noted peach fruit grower at Whitestown, N. J., stating that he has fruited a long row of the Niagara peach the past season and he is very much pleased with its size, beautiful color and superior quality. He adds that in his opinion it is a good variety for any peach planter. He says also that peach trees sent out from many nurseries under the name of Niagara peach are not that variety and do not represent it at all.

Farm Barns and Equipments

In order to keep posted in regard to the progress of the age, which is affecting almost every department of human enterprise and invention, one must be wide awake and must have a desire to be informed. Even then it is possible that many things may escape the attention of the investigator.

I am deeply interested in new designs for farm buildings, which in the past have been crudely and imperfectly designed, or have been built without much of any design. In these days the progressive farmer about to build a house or a barn secures a plan made by some skillful architect. This plan need not be made especially for this one farmer, but can be secured for from \$10.00 to \$25.00 from those who publish plans. My thought now is particularly directed to improved plans for barns, for stables, devices for feeding horses, cows and other stock, and for removing the manure and handling the grain or fodder, which possibly the average farmer is not familiar with, and

yet all recognize the wastefulness of the ordinary manger into which hay is dumped, a portion of which is dropped under the feet of the animal, causing serious waste.

Many farmers have modern barn equipments but have given the equipment of the house less attention, therefore the housewife is subject to disadvantage in her daily labors by not having a convenient and well regulated kitchen or cupboard, pantry or dining room.

Modern devices for handling hay and fodder of any kind are as yet adopted by a few and not by the great majority. How few farmers have traction engines to do the work of horses, or gasoline stationary engines to cut hay and feed and saw wood, and perform various other functions for the farmer. How true it is that the farmer of today should be supplied with the many devices ready at his hand far in advance of the farmer of twenty or forty years ago.

How many farmers there are who have well equipped houses and barns who have no fruit garden. Surely the man who has not a home supply of fruit of various kinds growing upon his place cannot be considered an up-to-date farmer.

The Walnut Book

This is the title of a new publication, a little magazine devoted to the culture, propagation and sale of the Persian walnut, known to most people as the English walnut. It is published at Portland, Oregon, and the first issue is before me. It contains many instructive and interesting articles. Price \$1.00 per year. I take pleasure in calling attention to this publication, knowing how difficult it is to establish a publication of this kind. The publication has our best wishes.

Proud of My Country

Many nationalities pride themselves on being old. We can take pride in the youthfulness of the United States. This country is practically one hundred years old. This means that our marvelous achievements, our population of over 100,000,000, our wealth which has increased above that of any other nation, our accumulation of gold in excess of that of any other nation, our inventions exceeding all other nations, our railroads, our agriculture and our mines exceeding other nations, the happiness of our people, the well being of our laborers, the big wages and short hours of laborers, the high morality of our average citizens, far above that of the average nation, have all been attained in a brief space of time. Then topping all is the Christian attitude of our government, which is inconceivable to many European governments or rulers. To the astonishment of China we paid back to that nation millions of dollars that they sent us in payment of damages during the Boxer revolution. We spent millions of dollars in freeing Cuba, the Isle of Pines and the Philippines from the greed of Spain. Lastly we have sent millions of dollars worth of food and millions of money to the alleviation of the Belgians and other distressed peoples. Verily we may say in the words of the Good Book: "God has not so dealt with any other nation."

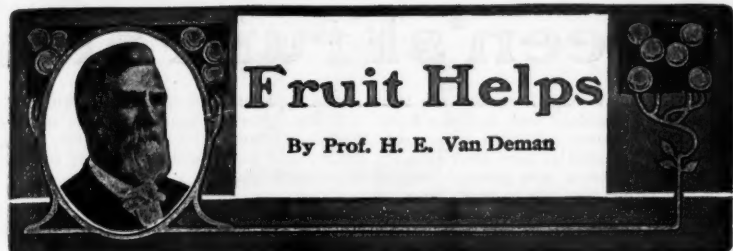
Proper Method of Waterproofing a Concrete Cellar Wall

The seepage through the cellar wall is very likely due to the fact that the concrete is porous. It is possible you may successfully remedy this by giving the wall a coat of neat cement. The neat cement is made by mixing cement and water together to the consistency of thick cream. It is usually applied with a whitewash brush. Before applying this neat cement the wall should be perfectly clean and saturated with water. If this does not stop the seepage we would recommend that you give the wall a plaster coat of cement mortar. The mortar should be mixed one part Portland cement to not more than two parts sand. Before applying the cement mortar to the walls they should be thoroughly cleaned and saturated with water. They should also be given a coat of neat cement just before the mortar is applied.

WAS PLEASED WITH THE DISHES

Green's Fruit Grower—I wish to let you know that I have received my Colonial Tea Set, and am so pleased with it. It is so decidedly colonial. Thank you very much, it was well worth working for and came so well packed nothing was broken.—E. Underhill, N. J.

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Fruit Helps

By Prof. H. E. Van Deman

Manures for the Fruit Growers

One of the great questions of the day for fruit growers as well as for all other tillers of the soil is, How shall we most effectually and most cheaply enrich our land? How can we make our trees and plants produce the biggest crops of the best fruit? There can be few, or, perhaps, no questions arise in the mind of more importance to the fruit growers than these. They pertain to the vital parts of the whole business.

There are certain facts which may very properly be called "primer science," that lay at the foundation of the whole subject of soil fertilization. Of these elements of nature there are thirteen that enter into the composition of plant structures. Some of these are metals and some are not. Some are found in the earth and some in the air. Nearly all ordinary tillable soils contain an abundance of those which have their home in the earth, such as iron, silicon (glass), etc.; but there are two of them that are often taken out by frequent cropping, until there is not enough left to supply the needs of the vegetable life which we attempt to grow upon it. These are potassium and phosphorus. Potassium is a hard, bluish white metal which is always found naturally in combination with other substances with which it readily unites. The form in which serves plant life is called potash. Pure phosphorus is a solid substance, but rather plastic in its nature, is translucent and colorless, but like potassium is almost universally combined with other things. In plant structures, and, previously in the soil, it is found as phosphoric acid, which is a chemical mixture with oxygen and hydrogen. Nitrogen is a gas, which, in its pure form, constitutes four-fifths of the air. Combined with certain other elements it forms ammonia and the various nitrates, in which forms plants and all other living forms of organized matter imbibe it.

Without these three things, potash, phosphoric acid and nitrogen, no plant can exist, nor can any one of them be spared. The sooner this fact is plainly fixed in the mind and the clearer the understanding of it the sooner and the better will the fruit grower know how to go about his business.

But there are certain other things that he needs to know, that are intimately connected with the matter of vegetable physiology and nutrition, and, in which potash, phosphoric acid and nitrogen figure conspicuously; it is, how and why they are useful to plants, or in other words how they help them to grow, where to get them most easily, and how to use them most advantageously.

Potash is one of the most active agents in stimulating plant growth. It may truly be said to be the backbone of all fertilizers, whether they are home-made or bought in the markets. It causes a healthy, solid growth of wood, leaf, fruit seed and grain. Plenty of potash gives a rich flavor to the fruits and induces the other metallic substances, such as iron, to paint them with rich colors. While it is not the paint itself (iron is), it is the brush. It is claimed by a few advanced culturists that they can make the flavor and color in proportion to the potash used. The soil naturally contains much of it, but a large part of it is in unavailable forms. Stirring the soil, and exposing it to the action of the air and rain will not only help to dissolve these forms, but they will enable the potash to dissolve other substances and set free needed elements. But do as we may, the continual cropping will reduce the amount of available potash in the soil, so that we must add more from outside or receive less abundant crops. The ordinary farm manures usually contain fair quantities of it, but sometimes they are quite deficient in the essential ingredient. Wood ashes, if made from hard wood, and unleached have from 2 to 5 per cent of it. But the great mines of Germany contain inexhaustible stores of it in various com-

bination with common salt and other minerals. Muriate and sulphate of potash are two very valuable and cheap forms in which it may be bought. Kainit is another good composition, but not nearly so rich in actual available potash as the two just named. If five hundred to one thousand pounds of either of these are put on an acre there will be a marvelous change in the amount and character of the production of fruit.

Phosphoric acid enters into the deepest recesses of living organic structures. It is a part of the most vital parts. It is found in the protoplasm of the minutest cells. Just how it acts no one seems to know. Seeds are the richest in it of all parts of the plant. The bones and nerves of animals contain it, as well as their excrements, and it is from this source that we get the greater part of that which we need and are not able to get from the soil. Cultivation will help to release that stored in the ground. When we buy it the best plan is to get pure dissolved bone or phosphoric rock. The latter is only the decayed remains of the bones of extinct animals mixed up with lime and other matter making a sort of stony material. If five hundred or one thousand pounds of either of these finely pulverized substances are applied to an acre of land it will invigorate the crops for several years afterwards.

Nitrogen acts like a charm upon plant life. It causes a rapid, tender, succulent, leafy growth. It makes the leaves, stalks and tender shoots of almost everything large and of a deep green. It is almost intoxicating in its nature and must be used with careful skill by the fruit grower. It is easy to get too much into the soil and thus induce too much succulent growth of plant and tree, and make the fruit too soft. The richest stable manures often have too much of it for fruit in proportion to the other manurial elements it contains. For forage crops it is all right. The clovers and cow peas will extract it from the air and store it in their roots and stems. Plowed under, these soils will not only add humus to the soil but liberal quantities of nitrogen and at very little cost. It is indeed the most costly of all manures when purchased in almost any of the common forms such as in dried blood, tankage or the mineral nitrates. The latter are found in vast beds of nitrate of soda, etc., in South America, where there is no rain to dissolve them and dissipate the nitrogen. There is no danger of using stable manure in small quantities, perhaps not more than ten loads per acre of ordinary composition every two or three years, or one hundred pounds of nitrate of soda or two hundred pounds of tankage so often on ordinary fruit plantations. But be careful not to induce too vigorous growth.

Do not fear to apply plenty of potash and phosphoric acid, which are hardly likely or possible to be put on in excess. Moreover, they are not easily lost in the soil and some good judges say they are never lost. One thing be very sure to do, and that is, to manure wisely and with a liberal hand.

A Broken Down Peach Orchard.— Sometimes during winter ice and snow freeze to the branches of peach trees and crush the branches. At other times snowbanks accumulate around young peach trees and break down the branches. When such things happen all you have to do is to dehorn the trees, or at least cut back the branches of all broken parts beyond the point where the bruise or break has occurred. Peach trees will form new heads after being dehorned sooner than most other trees.

C. A. Green.—There is not a paper I like to read so well as your magazine, the Editorials are so full of meat and the other information is of the best.—A. F. Easton, Wisc.

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Paint Without Oil

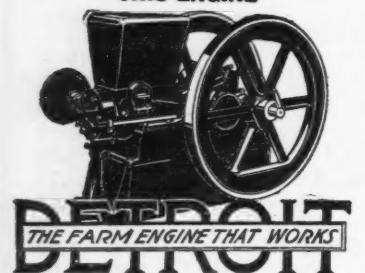
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Notes from Green's Fruit Farm

By E. H. Burson

The Care of the Orchard. In the December issue of the Fruit Grower I said something about the generous crop in our Baldwin orchard, and now as I look the record over I believe that it was the best crop of apples ever produced hereabouts on a like acreage. Some one asks me to tell how the orchard was cared for, and I shall tell as accurately as I remember. First let me say that clean culture has been given the orchard for several years, and the trees have been thinned annually and this during the winter or early spring months. Last winter the trunks and main limbs were carefully scraped of all loose bark and sprayed with lime-sulphur solution, 1 gallon to 8 of water. In the early spring, just as quick as the aphids hatched, (that is just when the leaf buds showed pink) the entire tree was sprayed with lime-sulphur, 1-10, and added to the mixture was 3-4 pint "Black Leaf 40" to the 100 gallons. Later on when the blossoms began to drop on the fruiting trees, every tree was again carefully sprayed with lime-sulphur solution, 1-40, to which was added 3 lbs. of arsenate of lead to the 100 gallons. Again in June before the apples turned down, those trees showing fruit were sprayed with the lime-sulphur summer mixture, to which was added arsenate of lead. A power sprayer was used, and without straining a point I believe it safe to say that 95 per cent of the leaf and fruit was covered with the spray. I did hear the other day that the State Nursery Inspector was heard to remark that this was the most thorough job of spraying that he had ever noted. Apparently there was not a tent caterpillar, an aphid or a codling moth that lived to do any work in the orchard. In the early spring (I had nearly forgotten to mention) an application was made of a home mixed fertilizer, 500 lbs. to acre, made up of, 1000 lbs. acid phosphate, 300 lbs. muriate potash, 300 lbs. nitrate of soda, and 400 lbs. basic slag, to the ton. In early August 1-2 bu. oats and 20 lbs. red clover was sown to the acre and by apple picking time the growth fairly covered the ground so that the drops could be picked up to good shape.

Two Orchards. Two years ago the past fall two neighbors decided to each plant an orchard of about two hundred apple trees. One called upon a local nursery, inquired about varieties, prices, asked advice about planting, pruning, etc., and left an order for the required number of trees, good varieties of a No. 1 grade. The other went to a city fifteen miles distant, was persuaded that No. 3 grade were the trees that were desirable, and both received such as they bargained for. The first neighbor set his trees carefully in a well prepared field from which a crop of beans had been taken. The other set his trees in an old timothy sod, digging meagre holes with a spade. The past fall the first neighbor could show an orchard where 99 per cent of the trees were thrifty looking, well headed, with an average caliper of two inches in the body, while the second neighbor, coming out one morning, looked sadly over the orchard and turned, went to the barn, took out a team and plow and turned sod, trees and all under the best he knew how.

The Peach Trees. Did you search for borers and bank up around the trees well before the ground froze stiff? If not, you may be troubled next summer by noticing sickly looking trees, caused by winter injury or scavenging borers.

If you have forgotten to put a veneer

protector around that favorite tree that stands east of the stone wall, better not put it off till tomorrow. I have seen many valuable trees ruined by mice after January 1st when the snow was banked around them. It is not too late to cover roses or any other semi-tender plants. More injury is done by the elements later on when it thaws one day and freezes hard the next. The freezing and thawing is bad for them. Cover them up and they will well repay you next summer for the trouble.

Better Apples This Year

Superintendent Burson reports that the apples at Green's Fruit Farm this year are larger, better colored and more free from insect depredations than ever before. In a picking of 84 barrels of Baldwin, 80 barrels were Standard A grade.

In a picking on low land, and where usually 50% of the crop lacks color or is of No. 2 grade, this year in a picking of 91 barrels, 80 barrels were of the highest grade. You could scarcely find a worm hole in a barrel of apples. The manager attributes the success this year largely to thorough and frequent spraying of the trees, which is not expensive but is remarkably effective.

Propagation of Fruit Trees From Bearing Trees

One advantage of having a large number of trees in bearing at Green's Fruit Farm is that we can cut our scions for grafting or budding from bearing trees. This is something that the average nurseryman appreciates but has not the privilege of possessing. Most nurserymen have no time to bother with growing fruits, hence they are continually cutting scions from thrifty young nursery rows that have never produced fruit. In this way they may be making errors continually without being aware. I know of an honest nurseryman who for years propagated what he supposed was Early Crawford peach, but which was in fact a large handsome clingstone of no particular value. He secured the scions for budding from a reliable Rochester nursery as he supposed, and this nursery also had propagated for many years a clingstone peach, supposing it was Early Crawford. If he had taken his scions from bearing trees his mistake would have been discovered at an early date.

Apple

Apple prospects, as reported, improved during September, increasing the promised production 433,000 barrels, to a total present prospect of 71,632,000 barrels total production, including both the commercial and non-commercial crop, compared with 84,400,000 barrels in 1914, 48,470,000 in 1913, and an average of 58,667,000 for the five years 1909-1913. The production this year is unusual in that it follows last year's record crop; a good crop following a bumper crop. The crop declined during the month in New England, Pennsylvania, Nebraska, Washington and slightly in Virginia, held its own in New York, Michigan and Wisconsin, and improved in West Virginia, North Carolina, Ohio, Indiana, Illinois, Iowa, Missouri, Kansas, Kentucky, Minnesota, Arkansas and California. The damage in New England and Pennsylvania was due largely to high winds blowing off the fruit. The early crop seems to have been somewhat better than the main crop. Apple prices at Rochester, N. Y. district \$3 to \$3.50 per barrel.

MONROE COUNTY APPLES

Value of that Crop about Rochester, N. Y., Exceeds that of Any other Raised

According to figures prepared by the local Chamber of Commerce there were in 1910, 702,841 apple trees in Monroe county, which produced 2,592,378 bu. of apples, valued wholesale at \$1,555,423. Since that time many more trees have been set, the normal crop is larger and the monetary value greater. Continuing the report of the Chamber of Commerce reads:

"The value of the apple crop exceeds that of any other crop raised in the country. Potatoes come next, followed by wheat and oats. In the same year when apples aggregated over \$1,500,000, potatoes stood at \$1,146,658, wheat at \$936,255, oats at \$692,780 and corn at \$490,000. Add

to the apple crop all of the other fruits, like peaches, pears, plums, prunes, quinces, grapes, strawberries, raspberries, cantaloupes and many others, and we have an impressive total."

Our Associate Editor was National Pomologist

Professor Van Deman was national pomologist from 1886 to 1893, and was the first head of the division of pomology in the United States Department of Agriculture says the veteran Cyrus Fox. For 25 years he was one of the editors of Green's Fruit Grower, a leading fruit journal published in Rochester, N. Y. He was a noted judge of fruits and served at many state, district and county fairs. Years ago Mr. Fox was an assistant judge with him at a number of fairs, taking some varieties of fruit and Professor Van Deman the others. They also attended different farmer's institutes in company and spoke on fruit growing subjects.

TREE FILLINGS AND WOUND DRESSINGS FOR TREES

By A. D. Selby
Ohio Agricultural Experiment Station
Circular No. 150

Materials: Dry sawdust of any variety, and solid asphaltum, such as "Byerlyte" and that used for fillings in brick pavements.

For Cavities in Swaying Branches: 1 part asphaltum to 3 to 4 parts sawdust. Moisten tools in Varnolene or possibly in crude oil. See below.

For Cavities in Trunks: 1 part asphaltum to 5 to 6 parts of sawdust. Moisten tools with Varnolene or crude oil. Stir sawdust into hot melted asphaltum until desired consistency is reached. Distribute sawdust, as added, evenly over surface of vessel to avoid boiling over. Apply in cavities while still hot. No joints or sheet paper separations are required as in cement fillings. If surfaces of fillings are irregular or lack uniformity of color, coat them with gas tar or liquid asphaltum.

In the preparation of cavities to be filled with sawdust and asphaltum, as with cement, or to be rendered antiseptic without filling, it is recommended that the decayed parts be removed to sound wood. This involves removal of all soft and rotten material; somewhat deeper cutting away seems advisable in shade trees than in fruit trees. It is further recommended that the interior surfaces be rendered sterile through the use of applications of corrosive sublimate, carbolineum or kerosene. It is not advisable to use creosote, because it is too penetrating for use next to living parts. The thoroughness with which the work of removal and disinfection is done will very largely determine the success of the fillings made. In case of very large cavities filled with asphaltum-sawdust mixture, it may be desirable to use an outer screen of close wire netting or of poultry netting. In any case the outer line of the filling will be kept more uniform by some surface, as of oil coated wood or metal, against which pressure is exerted as the filling is made. Finally, the irregular and general surface of the filling may be coated properly and successfully with gas tar or liquid asphaltum; either of these is a proper dressing for any border surfaces that may have been cut to secure contact with the filling.

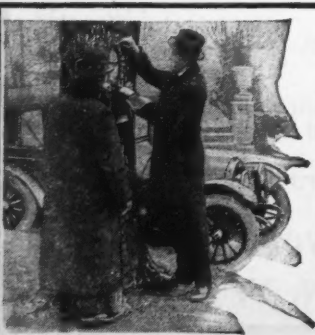
Experiments have been begun by the State College of Forestry at Syracuse to determine the best means of increasing the durability of grape stakes. Many thousands of these stakes are used annually in the vineyards of the western part of the state. As a result of the continued deadly work of the chestnut blight disease, the durable chestnut stake is becoming more scarce and valuable and the vine growers are being compelled to turn to the use of less durable and cheaper post woods, and it is believed by the college that these cheaper woods can be treated with a good preservative like creosote and made as durable as the naturally longer-lived species.

"You might let me have the car for an hour, uncle." "All right, my boy, you can have it." "And, I say, can you let me have the price of a couple of fines or so?"—London "Opinion."

Earn Big Pay as a Tree Expert

From a farm hand at \$25 a month to a tree expert at \$3000 a year—from monotonous grind to a fascinating, healthful, respected profession—that is the rise of the man pictured here, P. E. Hudson, Jamaica, L. I., N. Y. Through the Davey course of training by mail hundreds of young men, like Hudson, have improved their condition in life. You have an equal chance. A few months study, at home, in your spare time, will fit you for any of the following positions—Tree Surgery, City Forestry, Park Superintendent, Fruit Growing, Tree Surgery and Fruit Growing, City Tree Expert, Forestry. These fields are uncrowded; you will have more demands for your services than you can fill. Write today for book, "Adventures in Success," and tell us which of the professions listed above especially appeals to you.

The Davey Institute of Tree Surgery
433 Oak Street, Kent, Ohio



10 BIG FEATURES

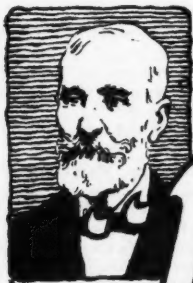
Money and Time Saving

(To Say Nothing of 10
Others Almost as Important)

THE Bean Power Sprayer offers you vitally valuable advantages over other sprayers. When buying a sprayer you want to be sure you are making an investment of permanent value—that you are getting a machine that will do what others cannot do and will save time and make money for you for years to come.

That is just what you do get in the Bean Power Sprayer.

Note these ten special features (most of them possessed by no other sprayer), and consider what they will save and earn for you during the season.



JOHN BEAN
Inventor of the
Bean Power Sprayer
and Magic Pump

Bean Magic Pump

Saves one third the labor! One man can easily maintain 120 pounds pressure for two nozzles. Has only two valves and but one plunger. Porcelain lined cylinders, ball valves, and all materials same as in Bean Power Sprayer.



Bean Barrel Pump

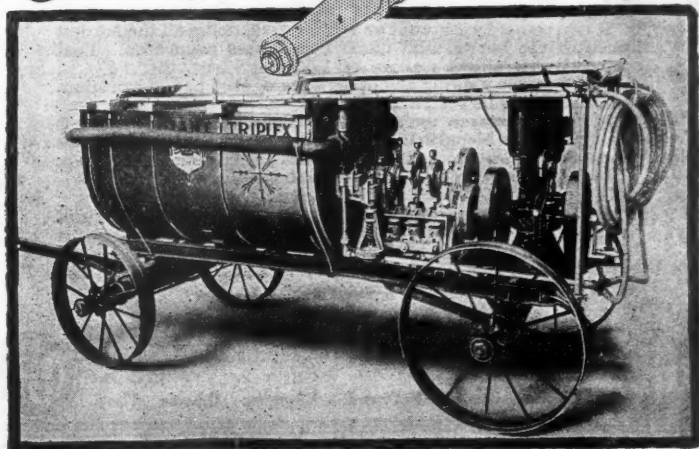
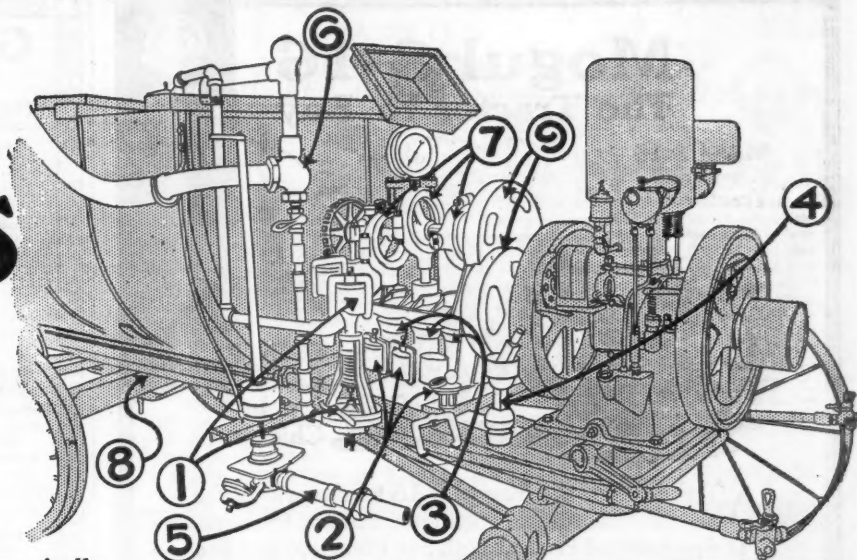
Built in three sizes. No. 70 and No. 60 with porcelain lined cylinder. The cheaper one, No. 50 with brass cylinders. All with ball valves, splendid agitators and large air chambers.

Bean High Pressure Spray Hose

Made especially to withstand high pressure and corrosive and oily spray materials. Saves annoyance, lasts longer, much more economical. Fittings that can't blow out.



The Bean Line is Complete — Everything
for Spraying



POWER SPRAYER

The 10-Point Sprayer

Grand Prize Winner San Francisco Exposition

1. Bean Patented Automatic Pressure Regulator

The greatest single improvement since power sprayers came into general use. Maintains any desired pressure whether nozzles are open or closed. When nozzles are shut off, the spray liquid simply goes back into the tank, without being put under pressure and the engine runs free, just as though there were no pressure in the air chamber. This saves $\frac{1}{2}$ the gasoline and wear and tear on the machine.

2. Bean Patented Threadless Ball Valves, with reversible seats

Can be opened up entirely, every part removed, in less than 2 minutes. And without lowering the pressure, without stopping the engine, without drawing the liquid out of the pump. Any valve can be entirely flushed out in a few seconds without stopping the engine.

3. Porcelain Lined Cylinders

Uninjured by the spray liquid. Will outlast the pump. Think what it means never to have expense for cylinder replacements!

4. Only Pump Without Stuffing Box

Cup shaped moulded plunger hugs cylinder tightly, and does away with troublesome stuffing box entirely. When worn, packing can be replaced in a few minutes.

5. Underneath Suction

Liquid does not have to be pumped up over top of tank. Saves power—Bean 2-cylinder pump will throw as much liquid

as average 3-cylinder sprayer. Flushes clogged valves instantly by gravity—impossible with overhead suction. By loosening one set screw a large casting in bottom of the tank drops out, emptying tank clean in a few seconds.

6. Bean Refiller

Has not a movable part. Fills 200-gallon tank in 5 minutes. Simplest and quickest method of filling a spray tank.

7. Eccentrics Instead of Cranks

Cost us more but save you money. Much more durable than cranks and give less friction. Wear is distributed over 14-inch wearing surface instead of the $2\frac{1}{2}$ -inch surface of an ordinary crank.

8. Bean Rocking Bolster

Permits wheel on either axle to be in rut or furrow, while other wheel is on high ground, without tipping sprayer or springing the frame.

9. Engine and Pump Direct Gear Connected

Avoids slipping belts and saves 10% of power. Pump and engine bolted direct to steel frame making outfit much more rigid. Frame bolted direct to axle eliminating bolsters and reach (perch), and saving 6 inches in height and 150 pounds dead weight.

10. Interchangeable and Complete

All parts of each size of Bean Power Sprayer are interchangeable with any other size. In emergency, a nearby Bean owner or any Bean dealer can supply any needed part without delay. Regular outfit is complete with truck, hose, rods and a l extras, and is shipped set up ready for immediate use.

Novo Engines On All Bean Outfits

Almost too well known to require description. Self contained, light weight, water cooled, frost proof, four-cycle type, with hit-and-miss governor. Jump spark ignition. No delicate parts. Simple, durable, efficient.

It is impossible to fully explain the valuable, exclusive features of the Bean Power Sprayer in this limited space. Every spray pump user should write for a copy of our fully illustrated catalog, No. 30, which explains in detail these 10 special features and 10 others almost as important.

Full Line of Sprayers

Be sure you are properly equipped for this year's spraying. We manufacture a complete line of power and hand sprayers as well as nozzles, hose and all accessories. Send for free catalog and name of Bean agent in your neighborhood.

Bean Spray Pump Co.

Originators of the first high pressure spray pump Established 1884

10 Hosmer St., - - - Lansing, Mich.
15 W. Julian St., - - - San Jose, Cal.

Sales Representatives Throughout the United States

COUPON

BEAN

SPRAY PUMP CO.,

10 Hosmer St.,

Lansing, Mich.

15 W. Julian St., San Jose, Cal.

Gentlemen:

Please send me your new complete

catalog No. 30. I have.....

acres of.....

I am interested in:

☐ Hand Pumps ☐ Power Sprayers ☐ Accessories

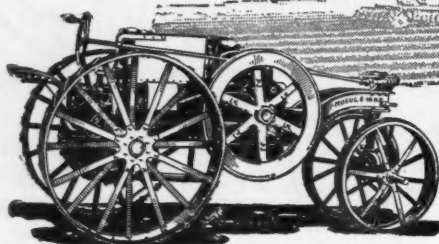
Name.....

Address.....

Mail
the coupon NOW

Mogul 8-16 The Tractor to Buy

Mogul 8-16
Kerosene
Tractor



\$675
Cash,
f. o. b.
Chicago



AT the price, the Mogul 8-16 tractor deserves the careful attention of all progressive farmers.

It won a Grand Prize at both San Francisco and San Diego Expositions. That proves its class.

It can be used with profit on small farms, doing all the hardest work of the horses, and much that horses cannot do. That proves its usefulness.

It betters the plowing and other work of seed bed preparation, while reducing its cost, and—

It burns kerosene under all conditions. This one reason is enough to sell a Mogul 8-16, because, on the average, gasoline costs about 65 per cent more than kerosene. That proves its economy.

It costs about half its equivalent in horse flesh.

The price is \$675 cash, f. o. b. Chicago.

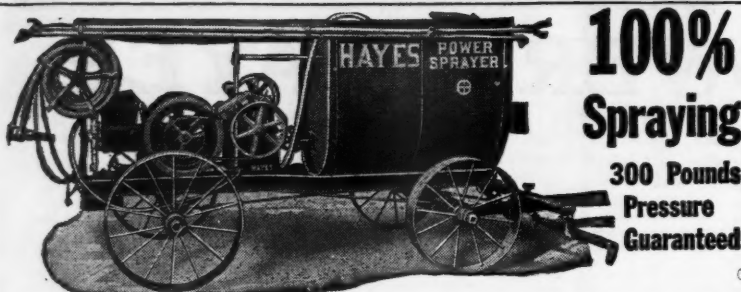
A tractor so good, so useful on farms of all sizes, so economical, and at such a price, deserves a thorough investigation. Your local dealer should be able to show you a Mogul 8-16. If he can't, write to us. We'll see that you get a look at it, and we will also send you our new book, "Tractor Power vs. Horse Power."

International Harvester Company of America
(Incorporated)

CHICAGO

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Champion Deering McCormick Milwaukee Osborn Plano



**100%
Spraying**
300 Pounds
Pressure
Guaranteed

HIGH PRESSURE spraying is 100% efficient. The more thorough the spraying operation the greater is the **PROFIT** from the crop.

All Hayes Power Sprayers are guaranteed to maintain 800 lbs. pressure.

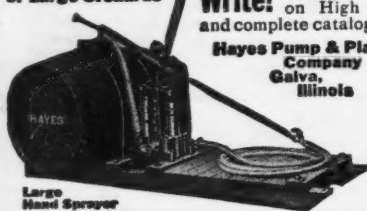
25 STYLES—
Hand or Power
Sprayers for Small
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Hayes SPRAYERS

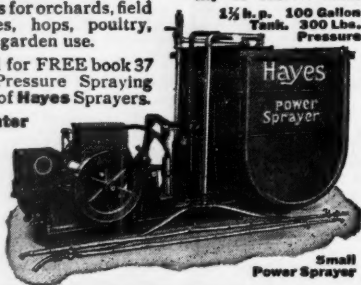
We make sprayers for orchards, field crops, shade trees, hops, poultry, painting, home and garden use.

Write! Send postal for FREE book 37 on High Pressure Spraying and complete catalog of Hayes Sprayers.

Hayes Pump & Planter
Company
Galva,
Illinois



Large Hand Sprayer



Small Power Sprayer

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Promote Good Health and Happiness
They Succeed Where Others Fail

JOY—The best and biggest Blackberry. **VAN FLEET HYBRIDS**—The best Strawberries.
JUMBO and BRILLIANT—Best Raspberries. **CACAO and IDEAL**—The best Grapes.
EVERYBODY'S CURRANT—Best for everybody. **CARRIE and OREGON**—The best Gooseberries.

MY CATALOG No. 1, an illustrated book of 64 pages, tells all about them and describes with prices all "the good old varieties" of Small Fruits as well. It gives instructions for planting and culture and tells about the beautiful new Rose I am giving away. It is free.

Large plants for quick results a special feature. 200 acres; 38th year.

J. T. LOVETT, Box 134, Little Silver, N. J.

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The Oldest Fruit Journal in America

GREEN'S FRUIT GROWER CO., Publishers
C. A. GREEN, Pres. and Treas. R. E. BURLEIGH, Vice-Pres. and Mgr. M. H. GREEN, Sec'y.

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Office, Rochester, N. Y.

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50 cents per year, 3 years for \$1.00

Rates for advertising space given on application.

NOTICE TO SUBSCRIBERS:—If any subscriber has been defrauded by any advertisement appearing in Green's Fruit Grower, he will do us and the public at large a service by at once reporting this advertiser to us, giving full particulars, we will upon receipt of full particulars, investigate and will do everything in our power to bring about a satisfactory adjustment.

Subscribers who change their residence will please notify this office, giving old and new addresses.

Entered at Rochester (N. Y.) Post Office as second class mail matter.

Differences in Apples from Different Sections

Charles A. Green.—I have your favor of the 23rd inst., and am a little surprised that you did not recognize the apple I sent you. This is an apple that I picked out of the grader as they were running through with a number that I desired to exhibit at a local fair and it was exhibited with others and judged by the pomologists from College Park. I am very familiar with this apple. That apple was one of 7,000 barrels grown by that orchard this year. This apple is largely grown in this section, as you know, it was comparatively recently introduced and the oldest trees we have are about 20 years of age.

I have an orchard of 8,000 trees, 4,000 of which are Stayman and 2,000 old Wine-sap, and am a director and vice-president of a company owning three orchards with 40,000 apple trees and 7,000 peach and pear trees and fully 1-4 of this orchard is Stayman. The apple I sent was somewhat under size but was selected because it was the proper size for the package in which I mailed it. I will try to send you a few more to give you another opportunity of judging.

The apple I sent you I think was pollenized by the Jonathan. Their color is somewhat influenced by their pollenization and they get the best color from the Jonathan and Nero.

You will understand that the apples for a more Southern climate are different from those in your climate. I learned this fact in my childhood. My father in 1856 when I was about 10 years of age bought an orchard of 300 trees from a firm in Rochester, I think the name was Prince, as I recollect. They were Baldwin, Spitzenberg, Northern Spy, Rhode Island Greening, Rockbury Russet, Lady and some other varieties that I do not so well recall; but were all apples suited for a Northern climate. I grew up with this orchard and know that they all developed into summer and early fall apples.

You will understand that apples in your section bloom 5 or 6 weeks later than ours and the season being much shorter both in the spring and in the fall, they are carried to cool weather when they can be gathered and stored. In our climate the apples I have described bloom in April and by the last of August or first of September they are entirely matured and fall off. The weather is so warm they cannot be handled for storage. Reversing things our Winesap, Paragon, Stayman, York Imperial, Ben Davis, and some others require a much longer season than you can give them and consequently they fail to mature at all. The real difference between the Northern apple and the Southern apple is the time they occupy in maturing.—I. B. S. Easton, Md.

Reply:—I advise you to make a thorough test of your Stayman apple. There are not many eastern men who are familiar with this variety. I am not familiar with it myself. I have bought it at Washington and New York markets. It came labeled Stayman and was entirely unlike your apple in appearance and in flavor and in texture of flesh. I know how apples differ in different localities, but I hardly think

they could differ as your Stayman differs from the western Stayman.

Send a sample to the Pomological Division, Department of Agriculture, Washington, D. C., and then to some well known western expert. We have lost in Van Deman the greatest expert in varieties that this country has ever known. He had only one competitor and that was Charles Downing.—Chas. A. Green.

About Nuts

Mr. C. A. Green.—I have a nut tree called Jap. Mammoth chestnut, which set several burrs, but all are blanks with one exception. The burrs are full of nut shells but there is no meat in them. What is the cause? Is it the lack of pollination? The tree is six years old and the only one in this locality.

I also have a Jap. Max Californian walnut six years old which has not shown bloom. From what I have read I think it should bear in four to five years.

I have a pecan tree and two Spanish sweet chestnuts, each eight or nine years old. They have made slow growth and, having been eaten up by stock, are small. None of either have fruited. I have three English walnuts growing from those four nuts you sent me three years ago. When can I look for nuts from them?—A. M. Preston, Ohio.

Reply:—I have a chestnut tree growing alone, which is filled with burrs every year, but the burrs contain no eatable nuts. I assume that if this chestnut were located near other chestnut trees it would bear profusely. I have a grove of chestnut trees at Green's Fruit Farm, nearly a quarter of a mile distant from this unfruitful tree.

Nut trees do not come into bearing at an early age. You should not expect fruit of your English walnuts until the trees have attained considerable size. English walnut trees are more hardy later in life, that is the older the trees the more hardy they become, therefore I advise for the first few years placing a nail keg or a barrel over young English walnut trees in localities where the thermometer goes ten degrees below zero.

Dwarf Apples

Editor of Green's Fruit Grower:—Last winter I read an interesting article in your magazine about dwarf apples. I would kindly ask if any other of your readers has had any experience with dwarf apples, either for profit or pleasure. I would like to hear from some one who has or knows of old trees. Are they more regular bearers? Is the quality better? At what age do they bear a paying crop? Is the color better, and do the trees break badly? Does the fruit need thinning? How old do they get before they are unprofitable?—Edwin Babb, Ohio.

Hotel Clerk.—We have only one room left, sir, and the bed is only big enough for one. "Well, I suppose we'll haf to dake it, but I hate to haf my wife sleep on der floor."

64-pages of facts,
photos and
figures on
spraying.

**SPRAYING
FOR
PROFIT**

Send 10 cents (coin or stamps)
for 64-page book of practical fruit-
growing advice by an acknowledged ex-
pert. Over 35 illustrations of fruit pests,
crop diseases, proper spraying devices to fight
them, and complete spray chart.

32-Page Catalog

Deming Sprayers, free on request, with
or without "Spraying for
Profit."

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DEMING
CO.,
141 Depot St.,
Salem,
O.

Enclosed find 10c for "Spraying
for Profit." Send catalog free.

Name.....

Address.....

City.....

State..... (141)

I have..... trees to spray.

Since 1856

Gregory's Honest Seeds

have been the
standard for those
demanding the
best. For 60 years
we have supplied
thousands of growers all over the U. S.

Our 60th Year in Business

To celebrate this 60th Anniversary we want to get
acquainted with 25,000 garden lovers. Send for
this collection:

5 Large Packets for 10c

Gregory's Improved Crosby
Egyptian Beet; Lucerne Swiss Chard;
Gregory's Hanson Lettuce; Scarlet
Globe Radish; Japanese Climbing
Cucumber; including Garden Blue
Print with directions.

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A handsome book full of valuable
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and honest prices. Send for
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**FREE BIG CATALOG
OF LIVE
SEEDS**

and Plants and Pkt. Giant
Pumpkin Seed FREE. Best
New Seeds sure to grow, at
low prices. Gardeners ask
for Wholesale List.
ALNEER BROS.
No. 15. Elk., Rockford, Ill.

Will You Take Orders?

Your spare time is worth \$10 a day demonstrating
the 1917 Model, Steel, 15-in-1 Automobile
Handi-Tool. Equals separate tools costing \$100. Lift-
ing and pulling jacks; fence building tool; stump
and post puller; baler; press; bolt; etc. No experi-
ence needed. Demonstrator free. Credit given. Exclu-
sive territory. Write for special factory agency offer.
Geo. E. Bessell Co. 332-A Industrial Bldg., Indianapolis, Ind.

**FREE 10 DAY
Orchard Test**

STAHL SPRAYERS
We will ship you any Barrel Spraying
Outfit in our catalog for a thor-
ough Ten-Days' FREE Test.
Get Our New Catalog
—Special Free Trial Offer
Direct-from-factory-to-farm Selling plan
saves you fully 40%. If not greatest bargain
you ever saw, return it—test costs nothing.
Wm. Stahl Sprayer Co., Box 44, Quincy, Ill.

Small Fruit Plants

Guaranteed in every way. Prices reason-
able. Fine, large, healthy plants. Guar-
anteed to be true to name and to reach you in
good growing condition. If you want to get
our bargains write at once for catalog.

Keith Bros. Nursery
Box 76 Sawyer, Mich.

3,000,000 Strawberry Plants
Ferdue's best quality plants give satisfaction, low-
est prices, write today and save money. Wholesale
and retail. Catalog free. C. S. FERDUE, Box 15,
Showell, Md.

STRAWBERRY PLANTS. True com-
posed and
valuable illustrated catalog free, worth \$1.00. Mayers
Plant Nursery, Merrill, Mich. Bohemian Nurseryman.

Fighting the Web-Worm

Green's Fruit Grower:—I noticed an
article in the Grower sometime ago about
fighting the web-worm and it has prompted
me to give my experience. I keep the web-
worm from my orchard by taking a common
oil can such as is used on farm machinery,
fill with kerosene, plunge the spout of the
can into the web and soak liberally. It is
all done in a jiffy and done well. Very few
escape. If a little oil runs down on the
limbs of the tree I see no bad results from it.
An engineer's oil can with a long spout is
good for reaching the higher limbs. This
can has a thumb pump valve that forces
the oil from the can when held in any posi-
tion. Using a torch to destroy the web-
worm is slow and in a dry time dangerous
where there is dead grass and leaves. Many
also escape with the torch plan. The web-
worm pest is getting to be serious and will
have to be fought persistently to be gotten
rid of. They are bad on walnut, hickory
and pecan trees.—Alonzo Shader, Mo.

Do Not Doctor Trees By Boring Holes in the Trunks

Green's Fruit Grower, Rochester, N. Y.—
Your communication relative to potassium
cyanide has just come into my possession.
In reply I would say that just at present
there is considerable interest in internal
therapy as a means of insect control. Ad-
vocates of this theory of plant protection
assume that poisonous solutions introduced
through the root system or into the trunk
are conveyed to the leaf, bark and wood
where they may actually exert their deadly
properties against the inroads of sap-sucking
and leaf and fruit-eating insects or exert
other beneficial influences. However, ef-
forts along this line directed to the control
of injurious insects, such as scales, plant
bugs, Grape Phylloxera and other species of
plant lice have been attended with mediocre
success and present knowledge indicates
that this method of treatment has a very
limited range of application.

For two years we have experimented with
potassium cyanide as a means of combating
the San Jose scale, the poison being inserted
in the trees by means of holes in the trunk.
The results indicate that the chemical,
under such circumstances, is of little value
in arresting the development of the pest
and the treatment is, besides, very injurious
to the health of the tree. Farmers should
be warned not to experiment with such
means of plant protection.—P. S. Parrott,
Entomologist, Geneva, N. Y. Experiment
Station.

Strawberries

Mr. C. A. Green:—I have 4000 strawberry
plants set out last spring. As the soil was
not manured very heavily before planting,
will nitrate of soda broadcasted between
the rows this spring help in preserving a
healthy condition of the vines, also in
increasing the yield of berries? W. E.
Zerkle, Ohio.

Reply:—Yes, nitrate of soda is considered
desirable applied in the way you mention.
Since this nitrate may be washed out of the
soil quickly if not at once taken up by
growing plants, it is considered best to ap-
ply it only in the growing season, say early
in June.

How much to apply per acre depends
upon the fertility of your soil. If the soil is
rich enough to produce good corn and wheat
I would not use over 300 lbs. of nitrate per
acre. There are strawberry growers who
would not hesitate to apply from 500 to
1000 lbs. per acre of complete fertilizer,
containing nitrate of soda, potash and phos-
phate, but in most instances this would be
an excessive application of fertilizer and
would be desirable only on a somewhat
impoveryished soil.

It is the habit of many strawberry growers
to cover the plants in winter with strawy
stable manure, which answers the double
purpose of enriching the soil and protecting
the plants from heaving, which danger of
heaving occurs most seriously in the spring
months. For home supply plenty of straw-
berries can be grown on ordinary soil with-
out the application of any fertilizers.

Green's Fruit Grower:—I am a sub-
scriber to the Fruit Grower, in my
judgment the best paper of its kind
that is published.—J. P. Holladay, Wyo.

**"FINE FRUIT"
AND IT'S
MYERS
SPRAYED**

Looking at the fruit growing proposition from the
home standpoint—Isn't it a big satisfaction to have the
fruit cupboards and bins filled with fine fruit for win-
ter consumption? Nothing better in the world—then why not grow
plenty of fruit that you will be proud of—fruit that will be sound, fully
matured and keep well—fruit that you can use with satisfaction or sell
at advance prices. Spraying MYERS WAY will help you in your efforts,
and this is an excellent time to get ready for your spraying operations.

MYERS SPRAY PUMPS
are unequaled in construction, material used and finish—A complete line of Bucket, Barrel and
Power Outfits, Nozzles, Hose and Accessories for every spraying need. Tested, Fully Equipped
and Thoroughly Proven, they will simplify your spraying labors, and insure best results.

Illustrations below show several styles of our popular Outfits—The entire line is illustrated in our late
(Revised Edition) Catalog—Myers Spray Pump for Spraying, Painting and Staining, which also gives
reliable information and data regarding spraying. Write for copy today—sent to anyone who is interested
in spraying and better fruit.

F. E. MYERS & BRO. 150 ORANGE ST. ASHLAND, OHIO
ASHLAND PUMP AND HAY TOOL WORKS



Don't Pay Freight on Water Spray with Niagara Soluble Sulphur Compound In Powder Form

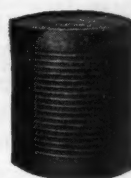
FIVE YEARS of actual practical experience in every fruit-growing
section, in every State in the Union, has proven that this wonderful
Spray Material, which dissolves instantly in cold or hot water, is
Efficient, Economical, Practical, Convenient
It not only enables you to produce clean, top-quality fruit, but at the same time
reduces your spray bills 25 per cent or more.

Note This Comparison



Standard Barrel
commercial lime and sul-
phur. This 50 gallons of
liquid weighs 600 pounds,
of which 75% is water and
package. Impossible to pre-
vent leakage.

100-lb. Drum of Niagara Soluble Sul-
phur Compound makes more dilute
spray than a 600-lb. barrel of Lime and
Sulphur Solution. At the same time
you have less to haul and handle. No
loss from leakage—No crystallization—
No spoilage, as Niagara Soluble Sulphur
Compound keeps indefinitely in any
climate.



Standard Drum
Niagara Soluble
Sulphur Compound.
This 100 pounds of
powdered material
is equivalent to 60
gallons of liquid.
Leakage impossible.

**SPRAY YOUR TREES WITH
NIAGARA SOLUBLE SULPHUR
COMPOUND
AND GROW CLEAN, HIGH
QUALITY FRUIT
AT LESS EXPENSE**

Write us at once for booklets that tell how to spray and
show you how you can save 25 per cent or more on your
spray material bills.

IT WILL PAY YOU to get in line with Soluble Sulphur users—They are the men
who are making money in the fruit-growing business.

Use the coupon—Let us prove our statements to your satisfaction.

Niagara Sprayer Company

79 Main St., Middleport, N. Y.

Manufacturers of everything for spraying purposes
Machinery and Materials

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Tell me how I can grow
better fruit and save 25%
on my spray bills.

KNIGHT'S FRUIT PLANTS
NONE BETTER

For best results you must have KNIGHT'S fresh dug guaranteed plants. They have a National reputation for superior quality and bottom seed the STANDARD FOR OVER 50 YEARS.

If you would like strawberries in October we have the plants that will grow them. Send about these and all other new and standard varieties in our *Knights' Book on Fruit Plants*. Free—Write, DAVID KNIGHT & SON, Box 520, Sayre, Mich.

Only \$2 Down
One Year to Pay!

\$24 Buys the New Butter-Making Machine. Skims 50 quarts per hour. Made also in four larger sizes up to 8-12 shown here.

30 Days Free Trial Earns its own cost and more by what it saves in cream. Postal brings Free Catalog, folder and "Direct-from-factory" offer. Buy from the manufacturer and save money.

ALBAUGH-DOVER CO. 112 No. 2109 Marshall Blvd. CHICAGO

No Money In Advance

30 Days Free Trial MARVELOUS BUTTER MAKER

Nothing we can tell you here can give you a fair idea of the remarkable ease and speed with which you can make butter with the wonderful *Fayway*—and better butter than you have ever been able to make with any ordinary churn. The only way for you to be convinced of these facts is to make butter with it on your own farm—to prove everything for yourself. That is why we offer to send you the *Fayway* without a cent of advance payment—without a deposit—without even a promise to buy—and use it in every kind of butter-making tests for 30 days absolutely at our risk. If the *Fayway* does not make better (from either cream or whole milk) in less than half the time consumed by the best churn you ever saw or used—if it doesn't make the best butter you ever tasted—if you don't consider it the most remarkable butter making invention ever offered—we don't want you to keep it. Send it back at our expense. If you decide to keep it, you may pay all cash or on easy monthly payments.

The Fayway Butter Separator

The *Fayway* principle solves the question of finer butter under all conditions. It keeps the fat globules intact. Ordinary churns break them down. Result—greasy, salty butter. *Fayway* butter has better body, contains less moisture, keeps longer, looks and tastes better than any "churned" butter. It's the extra fine butter that brings you fancy prices.

5c to 10c More Per Pound for *Fayway* butter than for ordinary butter. You can actually get it because of its better quality. And you get more butter because the *Fayway* recovers all the butter-fat. Ordinary churns leave up to 4% of the butter-fat in the buttermilk. Extra profits alone pay for it over and over again.

5 Year Guarantee Only Farm Churn that can stand up under such a strong guarantee. Think of it! We guarantee this marvelous butter-maker for 5 years. With ordinary care it will last a lifetime. This is the machine that has revolutionized butter making on the farm. Don't confuse it with any other churn—the principle is "different."

FREE Buttermaking Course Opens your eyes to bigger butter profits. No matter how small or large a herd you milk you should know the secrets this course reveals. Post card brings facts and proof. Write today—NOW!

The *Fayway* Co., 180 John St., Cincinnati, O.

Dairy Notes

Sunshine is essential to all life.

The one important thing is cleanliness, cleanliness with stock, stables and utensils.

A properly kept cow stable has no offensive odor. Land plaster should be used freely in the stables to absorb all odor.

Give a cow plenty to eat and drink and keep her contented and at ease and she will make a better record in the milkpail.

Sheep manure is one of the best farm manures. It contains a large percentage of nitrogen and a portion of phosphoric acid and potash.

Lucky are the farmers who have well filled silos, for the ensilage makes far better cattle, more milk, less labor in winter, and more profit.

All things considered, it pays better to grind feed for the dairy cows than for any other class of stock.

Water is fully as important to the dairy cows as feed during the winter. They must have access to it so that they can drink all they want, whether they have it in automatic water basins, or in the yard tanks. Cows giving milk need great quantities of water. Careful experiments have proved that it requires more than five pounds of water for every pound of milk produced by the cow.

Greatest of All Crops

Never in the history of our country was there such a crop as that which has just been harvested, or is now ripening for the harvest. Never, we think, in all the history of all the world was any nation so blest with bountiful yields, with bursting plenty, says *Farm Life*.

How eloquent these items are, as taken from the latest governments estimates: Corn, 2,920,000,000, against 2,672,804,000 last year, and increase of about 250,000,000 bushels; wheat, 966,000,000 bushels, an increase of 75,000,000 over last year's banner crop; oats, 1,400,000,000 bushels, an increase of 260,000,000 bushels.

We will have four million tons of hay above the 1914 mowing and there will be twenty-five million more bushels of potatoes in the great American bin. All down the line the story is the same, with perhaps the single exception of apples.

With a prospect of fair prices for most products, if America does not have a record-breaking prosperity during the next twelve months, we will have to abandon the theory that "good crops mean good times."

Why Leave The Farm?

Many a farmer has abandoned the farm he loved, the work that kept him hale, the friends and affairs in which he was interested, to go to town, where he lived a life to which he was not adapted and which was not congenial to him. Many a man accustomed to an active life in the country has suffered in health by inactivity in town. A useful and influential member of society in his own environment, he has found himself with a small place or no place at all in his new surroundings. Some at least left their farms, have gone into other business which looked attractive from the outside, but was anything but profitable to them. All for what? To live an easier life, to

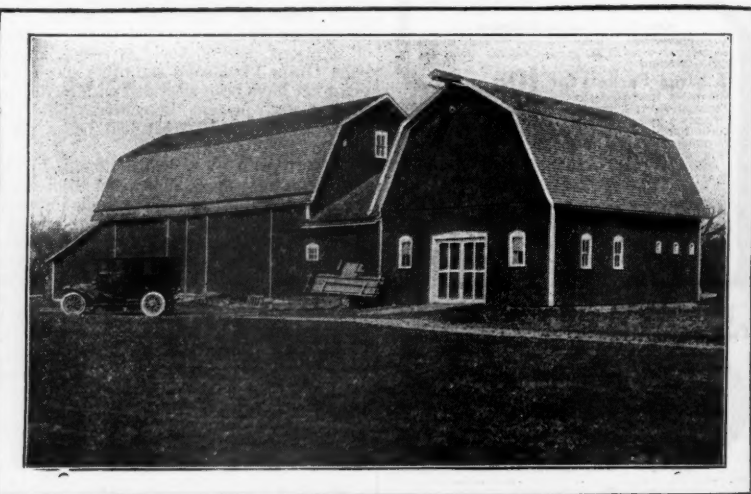
enjoy modern conveniences, to get the so-called advantages of the town or city. And they, too, look better from the outside than from the inside. The day has passed and gone when it is necessary to move to town to enjoy these things. For the rent that must be paid in a single year in a good sized town, or for a year's interest on the money invested in a residence there, some of these city advantages may be had on the farm. The cost for a year of living in a town of any importance will provide water, heat and light system on the farm and add that much to its value besides. The next move of any man tempted to leave his home, his neighbors and his place in the community in order to enjoy life more fully in the city should be to investigate these things. Let him move the city, so far as these material advantages are concerned, to his farm. Let him live his life in his own domain, surrounded there with all the real advantages of the city—a longer, more useful and happier life.—F. H. Sweet.

The Thermometer for Farm and Home Use

The clinical or fever thermometer may be found very useful on the farm. The condition of a patient may be the more intelligently reported by telephone or messenger to the attending physician. The temperature of a person in normal health is 98.6°.

The following are the normal temperatures of farm animals: Swine, 104°; goats or sheep, 102° to 103°; cows, 101° to 102°; horses 99° to 99.6°; dogs 99° to 100°.

A rise of one or two degrees is unimportant if temporary; but if permanent it indicates a serious condition which needs attention. A



rise of 10° to 12° in animals is usually fatal. One may wish to report the temperature of a sick animal together with other symptoms to a veterinary, and the exact fever condition can only be obtained with the use of a good clinical thermometer, which should be used in accordance with veterinary methods.—United States Yearbook.

Yellow or Red Apples

"Young man," said the head of the firm, "Your apples were fine, of first quality and nicely packed. (This was before the recent apple packing law was enacted) but they are of the wrong color; (which was a light yellow), says Pennsylvania Farmer. You can't expect top prices for yellow varieties. A yellowish apple is considered a ripe apple; that is, overripe," said the commission man, "and the trade doesn't want such fruit."

Very well, said the grower, what shall I do with that orchard of 250 trees? He was advised to graft them to another variety. The commission man told him what style of apple was the "best seller" on the market and advised him to get a certain variety which the young grower did. The trees were then about nine years old. He grafted them as directed and waited three years more for results. He picked some of the fruit, of which there were only a few bushels that year, but the best was selected and was packed in little casks, miniature barrels, holding one-third the quantity contained in the standard apple barrel. There were just 15 of the apple casks or barrelettes and, to test the market, five were shipped on Monday of a certain week, five more on Wednesday and the remaining five on Friday. The first five returned him

\$3 per cask. The second five \$3.25 and the third five \$3.50. That was equivalent to \$10.50 a barrel. This year the orchard is just coming to its own, and, barring insects and diseases, it will have a great future.

The moral of this little story is two-fold. There is little use of trying to force upon the market a variety or color of fruit that is not wanted. The chief reason, or rather another reason, why the first orchard did not turn out profitably was that the variety that was grown was unknown. And it was of the wrong color.

Again, a new style of package, easy to handle and attractive, helped sell the fruit, and it was, of course, immensely profitable for the grower to use it.

Commenting on the matter of packing fruit, I asked its grower what he thought of the new apple packing and grading law. Well, to put it briefly he didn't think much of it. He didn't believe in trying to legislate honesty into men. It is a doubtful proposition. As for himself he said it didn't affect him in the least. He had always packed his apples in three grades, and did it because it paid him to do so. Any grower ought to do it if he can realize a dollar more per barrel for his fruit. If growers see that it is for their interest to grade fruit carefully they should not need laws to compel them to do it. It is the carelessness of so many that makes failure in the orchard. The man who won't spray his trees won't sort his apples, very closely. He reckons he'll get about as much for his fruit if he sells it on the trees at a lump price and so he sells it that way. He will not take the pains required to place the fruit on the market so that it can make a bid for top prices.

THE VERY TIME When Powerful Food is Needed.

The need of delicate yet nutritious food is never felt so keenly as when a convalescent gets a set back on account of weak stomach. Then is when *Grape-Nuts* shows its power for it is a most scientific and easily digested food.

"About a year ago," writes a Kansas woman, "my little six-year-old niece left the invigorating and buoyant air of Kansas, where all her life she had enjoyed fairly good health, to live in Ohio. She naturally had a change of diet and of course a change of water, and somehow she contracted typhoid fever."

"After a long siege her case seemed hopeless, doctors gave her up, and she was nothing but skin and bones, couldn't eat anything and for weeks did not know even her father or mother. Her parents, in trying to get something delicate and nourishing that she could eat, finally hit upon *Grape-Nuts* food and it turned out to be just the thing."

"She seemed to relish it, was soon conscious of her surroundings and began to gain strength so rapidly that in a short time she was as well, playful and robust as if she had never been ill."

"We all feel that *Grape-Nuts* was the predominating factor in saving the sweet little girl's life."

Name given by Postum Co., Battle Creek, Mich.

Ever read the above letter? A new one appears from time to time. They are genuine, true, and full of human interest.

\$15.95 SENT ON TRIAL

American CREAM SEPARATOR

Thousands in Use giving splendid satisfaction justifies investigating our wonderful offer: a brand new, well made, easy running, easily cleaned, perfect skimming separator only \$15.95. Skims one quart of milk a minute. Different from picture, which illustrates our low priced large capacity machines. Bowl is a sanitary marvel and embodies all our latest improvements.

Our Twenty-Year Guarantee Protects You Our wonderfully low prices and high quality on all sizes and brands new, well made, easy running, easily cleaned, perfect skimming separator only \$15.95. Skims one quart of milk a minute. Different from picture, which illustrates our low priced large capacity machines. Bowl is a sanitary marvel and embodies all our latest improvements.

American Separator Co., Box 1121, Bainbridge, N. Y.



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Cropping the Orchard

In many cases it is feasible to cut down the net expenses per acre per year, by making the land do double service. If feasible to grow crops in the young orchard, what crops can he grow? It stands to reason that such a crop must have either a cash or a feeding value and that above all it must be a crop that will not endanger the life of the trees. Some crop must be chosen that will allow of proper cultivation of the trees. The fact should never be lost sight of that growing an orchard is the primary thing in view, says Practical Farmer.

One should never raise corn in a young apple orchard if the hired man is "corn minded" and not "tree minded." If the man who cultivates the corn is so constituted mentally that when it comes to deciding whether a hill of corn or a tree must be run into, that he chooses to save the corn, the only remedy is to plant something else in the orchard, or keep that particular man out of the orchard. We have been raising corn upon our farm for so many generations that the average farm help is "corn minded" and has it "bred in the bone" to respect a hill of corn. A "corn minded" man will never make a good fruit grower.

It is often feasible to crop the young orchard several years if the proper crops are chosen. Any crop which is chosen as a companion crop for trees should have certain characteristics to recommend it. Among them are: 1. It must be a profitable crop. 2. It must be a crop that requires cultivation. 3. It must be a crop that requires early cultivation and can be laid by after the first of August. 4. It should be an annual crop. The first year of the orchard at least a 3-foot strip each side of the tree row should be reserved for the exclusive use of the tree. This strip should be widened each year that the orchard is cropped. We should never forget that the root system of the tree is spreading under ground even more than the top is spreading above ground. It is seldom advisable to crop an orchard after the trees begin to bear. This means not more than three years cropping for the peach orchard. Not more than four for the cherry and plum orchards. The pear orchard may possibly be companion cropped for five years, and the length of time that an apple orchard may be cropped depends quite largely upon the system of planting. An orchard planted forty feet each way may safely be inter-cropped much longer than an orchard intercrop to early bearing fillers every twenty feet. Generally speaking, in the apple orchard the trees should have the whole land after the fifth year.

Let us briefly consider some of the crops that may be used as companion crops in the young orchard, and discuss their good and bad points.

Beans are excellent to grow in the young orchard. In those regions where the field bean is grown on a large scale it will be found to be a good crop for young orchards. The bean crop is a profitable one. It requires constant and thorough cultivation. Through the nodules upon its roots it traps nitrogen from the air and thus enriches the land. The crop ripens at a time that stirring the ground does not disturb the growth of the trees, and the beans come off the land in time to allow of a cover crop being sown that fall. The bean crop is sown late enough in the spring to allow the trees to get a good growth before the beans begin to draw upon soil moisture and soil fertility. String beans in some localities are used in young orchards.

Making Nitrogen Available

Nitrogen is one of the most abundant elements in nature. Seventy-eight per cent. of the atmosphere, by volume, is nitrogen in the uncombined state, says Pennsylvania Farmer. It also exists in very considerable quantities as salts of nitric acid, as for example potassium nitrate (salt petre), and sodium nitrate (Chile salt petre). These salts are very soluble and hence are found in great quantities only in very dry climates. One of the noteworthy characteristics of nitrogen is the fact that its compounds are easily broken up. This fact will be more fully appreciated when it is remembered that nearly all explosives contain nitrogen. The fact that nitrogen is hard to hold in combination, coupled with the fact that its compounds are necessary to plant growth, is responsible for the high cost of nitrogen as a commercial fertilizer.

All the nitrogen used by the plant must be gotten thru the roots, in the form of salts of nitric acid (nitrates). As these are very soluble, very large quantities of them can not exist in the soil at a time, but they must be manufactured and used in the soil as the plant demands them.

These nitrates are broken up by the plant and the nitrogen is used in constructing protein. Proteins are complex organic compounds, the essential elements in which are carbon, hydrogen, oxygen and nitrogen. These protein compounds form important parts of the tissues of the plant, being a constituent of the cell protoplasm.

When the plant dies and returns to the soil we call it humus. This humus contains nitrogen, combined in a complex protein compound, in which form it can not again be used by the plant. In order then to conserve the supply of nitrogen, available for plant food, there must be some means of reducing the nitrogen in protein compounds to simple nitrates. This process is accomplished by means of soil bacteria, and is known as "nitrification."

Note.—We are sure many of our readers will appreciate this clear statement of the process by which nitrogen is converted from a condition in which plants can not use it into available form. If farmers will provide the favorable conditions necessary to this operation, they will have on their own farms a factory for providing for their soils the highest priced elements of plant food in the cheapest possible manner.—Editors.

APPLES IN MAINE McIntosh Red a Leader

Editor Maine Farmer:—Your letter is received. In reply, will say that the Maine apple crop is like any other crop. When large at the time of harvesting, agricultural crops are usually cheap, especially in the locality in which they are raised. What I have done in anticipation of a large crop of apples is to provide cool cellars for storage.

I shall have about 1500 bushels, and they will all be stored except my McIntosh Reds, of which I grew about 125 bushels. The McIntosh Reds find a ready market in Waterville, as there are but a few raised anywhere around here, and they are a very choice lot. I saw in one of our fruit stores yesterday a box of Oregon apples, 120 count, weight 40 lbs., much smaller than my McIntosh Reds and inferior in every way. The dealer paid \$1.65 for the box, wholesale, a very low price for western fruit. He was retailing them at 3c apiece, or 30c a dozen.

I have put my apples up in boxes, every apple wrapped in paper, and they look as well as any western fruit ever offered in our market, and the count runs from 75 to 96 in the same size box as the western pack. I can get 144 in the Massachusetts box, of my smaller apples, a grade which is as large as the western apples above referred to, and they find a ready market at \$1.25 a box.

Winter fruit will keep until April or May, and even later if properly housed, and there is no reason why it should not find a good market at that time. The Maine farmers who are raising apples, lack particularly in one thing; that is, in providing store-houses in which to keep their fruit at the railroad stations, as they have done for potatoes. This will have to be done before the apple raiser is master of the apple market. This will solve the problem of price, for when a Maine farmer can store his apples in a co-operative apple house at the railroad station, he can wait until the market wants them, and then he can have something to say about the price.

The whole solution rests with the farmers themselves, and it is a question whether they have confidence enough in this business to invest their capital, as other men in other businesses do, and thus protect their own interests.—William T. Haines, Governor.

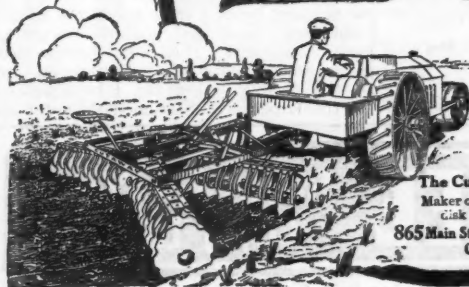
I would not be without the Green's Fruit Grower on the farm.—Geo. Kellerman, Collinsville, Conn.

Mr. Chas. A. Green:—As a reader of Green's Fruit Grower, I assure you, you are giving the sought for information. I fear you will make of me an orchardist. Surely you have me watching for each edition. Every article in each number is read with great interest.—Lemon Thomson, N. Y.

Save Half the time, labor and power in disking

Use a double-action harrow—disk twice at one going over. Save gasoline and keep from compacting the soil by a second working. But be sure the harrow has our rigid main frame that forces the rear disks to cut midway of the fore disks—the only harrow where rear disks cut as deep and do as much work as the fore disks, leaving the land level. Use a

Cutaway Double - Action Engine Harrow



Its forged sharp disks cut deep without bringing up trash; the dust-proof, oil-coated, hardwood bearings and perfect balance make draft light; it has an adjustable hitch, and is made in sizes to fit all tractors, with spreader hitch for use in multiples. If your dealer has not the genuine CUTAWAY, write to us direct. Be sure to write us for our new free book, "The Soil and Its Tillage." Make the best of your power this year.

The Cutaway Harrow Co.
Makers of the original CLARK
disk harrows and plows
865 Main St., Hingham,
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Spraying Pays

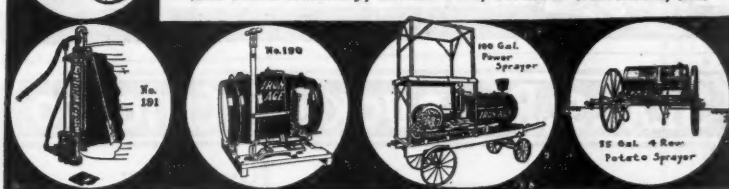
Saves your crop from loss, helps tree and plant to produce better and larger crops, prevents spread of disease, insures a longer life for trees and a larger growing time for vines each year. Blight hit potatoes in many States in 1915—many million bushels lost. Spraying would have saved them.

IRON AGE Sprayers

Include bucket, barrel, power and potato sprayers in many sizes and variety of equipment to suit each man's needs. We want to show you what each one is, how they are made and what they will do. Ask your dealer to show you these tools and write us for booklet describing all of them fully. We also have a spraying guide which we are glad to send.

Bateman Mfg Co., Box 164, Grenloch, N. J.

Also Potato Machinery, Garden Tools, Fertilizer Distributors, Etc.



Easier, NOW, to own an engine



Here are my Latest Prices

(F.O.B. Factory)

STATIONARY ENGINES

2 H-P.	\$34.95
3 H-P.	\$42.45
4 H-P.	\$49.75
5 H-P.	\$57.75
6 H-P.	\$65.75
12 H-P.	\$127.75
16 H-P.	\$179.75
22 H-P.	\$279.75
30 H-P.	\$359.75

PORTABLE ENGINES

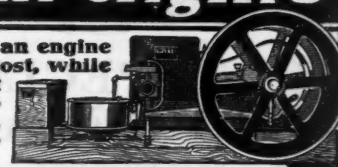
2 H-P.	\$39.95
3 H-P.	\$49.95
4 H-P.	\$59.95
5 H-P.	\$69.95
6 H-P.	\$79.95
12 H-P.	\$149.95
16 H-P.	\$209.95
22 H-P.	\$319.95
30 H-P.	\$419.95

ENGINE SAW-RIGS

4 H-P.	\$124.25
6 H-P.	\$152.25
8 H-P.	\$202.15
12 H-P.	\$267.00

5-Year Guarantee

Let me send you an engine to earn its own cost, while you pay for it. It is cheaper now, to have an engine, than to do without one.



WITTE ENGINES

Gasoline, Kerosene, Distillate, Gas

Before you arrange to try any engine, for any price, let me send you my evidence to prove the high quality—the high earning capacity of my engines. After all, it is what an engine earns, in proportion to its cost of purchase, and its cost of operation, that tells how much the engine is worth. Judged by this test, the WITTE wins every time.

Write for Book My book, "How to Judge Engines," will show you how to select the engine most suitable to your needs, and how easy it is to run a WITTE at any kind of work. Address my nearest office today.

Ed. H. Witte, Witte Engine Works,
2374 Oakland Ave., Kansas City, Mo.
2374 Empire Bldg., Pittsburgh, Pa.



When you write advertisers Please mention Green's Fruit Grower

To Nature's Bone Yard

The petrified remains of ancient animal life ground to an impalpable powder, form the economical and permanent source of *Phosphorus*. 18 years' tests at Ohio Experiment Station show an average of \$5.00 worth of increased crops from each \$1.00 worth of this Natural Phosphate used. Let us tell you more about it. Our booklets,—"The Farm That Won't Wear Out," and "Profitable Production with Permanent Fertility" are Free to farm owners. Write for your copy today.

Federal Chemical Co., Ground Rock Dep't,
Fox Bldg. Columbia, Tenn.

Advice About Tree Planting

Green's Fruit Grower:—I am considering planting ten acres to apples with peaches for fillers. I am a mechanical engineer, still considerably below the prime of life, who wishes to have a small fruit farm to retire to in later years, leaving the designs to be placed upon the trestle board by masters who are now craftsmen. I have had no practical experience in fruit growing other than having planted a few trees on my city lot two years ago and cared for them since. Fruit growing here is not done on a large scale, nearly all the orchards being those of farmers who give them little or no care; hence I have no chance to obtain first hand information concerning local conditions. I do not believe that anyone here knows what varieties do best in this locality. However, I have written to the Experiment Station at Wooster for

a wonderful variety of information which I lack. Now, I wish to get your opinion of some things which I propose to do.

My land is high, probably as high as any within many miles, and has enough roll to drain well. A small adjoining orchard is said to have never had a fruit failure. For market I am located on macadam road just six and a half miles from the center of Youngstown, (106,000 population), five miles from Niles, (23,000 population) ten miles from Warren, (40,000 population) and ten miles from Girard, (10,000 population). These form almost a continuous city for fifteen miles along the Mahoning river. Besides there are many villages of up to 5000 population within a radius of twenty miles.

In order to get my plan worked out I have decided to defer planting until the fall of 1916. Peaches I shall plant in the spring following. I expect to put the site in corn and potatoes next spring in order to get the ground in shape. I intend to subsoil at each tree site with dynamite and then plant the tree, throwing some manure on surface around it. Will commercial fertilizer do as well as manure?

I have appended a list of varieties which I propose to plant. The numbers required are based on setting the apples 38 ft. apart both ways and filling with peaches one way. Would I utilize my ground better by setting the peaches both ways? Or would I do better still to set peaches one way and short-lived apples the other? In case apple fillers are used, what are the best varieties? Will 19 ft. spacing allow enough room for driving between rows? What criticism have you to offer on the varieties I have selected? I want a few trees of the best flavored peach obtainable for my own use. What do you recommend for this?

I have roadway frontage on the west of 315 ft. and on the east of 1030 ft. As a landscape feature I have considered planting a cherry hedge on one frontage and pear on the other. Is this too much length to cover with this kind of hedge? Would it be well to mix the varieties of cherries in the hedge as you suggest for pears? No such hedges are to be seen in this county so I thought I would have an unusual advertising feature as well as a source of satisfaction to myself in them.

It is my intention to intercrop so long as the tree roots are not interfered with. Will it be necessary to get the crop off in time to plant a cover crop in a non-bearing orchard? How many years will it be before I must buy a power sprayer? Can I get over the ground with a knapsack sprayer for the first three seasons? What age must cherry and pear trees be for hedge planting? How high should they be headed?

I have written at considerable length, but I had many questions to ask and considerable explanation to make which I thought necessary. Whatever help you can give will be highly appreciated. I know it will be of great assistance.—S. D. Cooper, Ohio.

C. A. Green's Reply:—Looking forward to the planting of an orchard is a pleasant experience. I can testify to the pleasure of planting an orchard since I have had several such experiences, once when I was a lad upon the farm on which I was born, and later at Green's Fruit Farm. My bedroom looked out upon a big field which I had planted to apple trees with fillers of peach trees. Every morning on rising from my bed I would look out upon this promising sight with great anticipations of the fruitfulness of the future. Every week, every month I could seem to see the growth and development of the trees. In imagination I could see them bending low with the burden of beautiful and luscious fruit. In many departments of life the anticipation is greater than the realization, for in anticipating we do not consider all of the necessary work to be done in caring for the trees or in the harvesting of the heavy crops of fruit.

Your location seems to be remarkably favorable. There are hundreds of thousands of localities like yours, where the neighboring towns or cities are inadequately supplied with home grown fruit and where a promising outlook exists. The elevation on which you propose to plant is preferable to a plain, and yet there are parts of the country where orchards succeed on a plain. The fact that other orchards in your locality have been successful is a favorable indication. The macadam road is greatly to be desired. Such roads lessen the distance

more than one-half to the market. You seem to realize the importance of having the soil well subsoiled from sod before planting. The better the condition of the soil, the less will be the labor in future years. Be careful that no manure is applied in contact with the roots of whatever you plant.

In the orchard which I planted and which is now bearing fruit I planted peach trees between the rows of the apple trees and in the rows of apple trees, the apple trees being two rods apart each way. If the peach trees were planted only in the rows of apple trees and not between the rows, you would have an opportunity to grow hood crops, such as corn, potatoes and beans between the rows, or small fruits, such as currants, gooseberries, blackberries, raspberries.

I see no objection in the length of the hedgerow of fruit which you propose to plant along the highway. In my own case I did not find it necessary to buy a power sprayer until the apple trees came into profitable fruiting, but if your orchard is attacked by insect pests, you certainly will have to be prepared for destroying them. For a fruit tree hedge the trees can be any age, but young trees are preferable. I would not head them too low for a hedge row, since very low trees are more widely spreading.

Pear trees should be headed back to 3 or 4 ft., and cherry trees about the same. Fruit trees in a hedge row planted 3 to 6 ft. apart should be given thorough cultivation. There is no greater market peach than the Elberta.

Fruit Growers at State Meeting

More than one thousand members of the New York State Fruit Growers Association are expected to be in attendance at the annual convention of the organization at Exposition Park, Rochester, N. Y., on Wednesday, Thursday, and Friday, January 5, 6 and 7.

Pennsylvania State Horticultural Meeting

The annual meeting of The State Horticultural Association of Pennsylvania will be held at Reading, Pennsylvania, on January 18, 19 and 20.

Labor to keep alive in your breast that little spark of celestial fire, called conscience.—George Washington.

HARD TO DROP But Many Drop It.

A young Calif. wife talks about coffee: "It is hard to drop Mocha and Java and give Postum a trial, but my nerves were so shattered that I was a nervous wreck and of course that means all kinds of ails."

"I did not want to acknowledge coffee caused the trouble for I was very fond of it. At that time a friend came to live with us, and I noticed that after he had been with us a week he would not drink his coffee any more. I asked him the reason. He replied: 'I have not had a headache since I left off drinking coffee, some months ago, till last week, when I began again here at your table. I don't see how anyone can like coffee, anyway, after drinking Postum!'

"I said nothing, but at once ordered a package of Postum. That was five months ago, and we have drank no coffee since, except on two occasions when we had company, and the result each time was that my husband could not sleep, but lay awake and tossed and talked half the night. We were convinced that coffee caused his suffering, so he returned to Postum, convinced that coffee was an enemy, instead of a friend, and he is troubled no more by insomnia."

"I have gained 8 pounds in weight, and my nerves have ceased to quiver. It seems so easy now to quit coffee that caused our aches and ails and take up Postum." Name given by Postum Co., Battle Creek, Mich.

Postum comes in two forms: Postum Cereal—the original form—must be well boiled. 15c and 25c packages.

Instant Postum—a soluble powder—dissolves quickly in a cup of hot water, and, with cream and sugar, makes a delicious beverage instantly. 30c and 50c tins.

Both kinds are equally delicious and cost about the same per cup.

"There's a Reason" for Postum.

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It shows the most complete line of small fruit plants to be secured anywhere—tells you how to plant and grow them successfully—Strawberry, Raspberry, Blackberry, Currant, Grape Plants. All guaranteed—all true to name—all free from disease—all northern grown on our new ground, which produces strong, healthy, large, heavily rooted plants. 110 acres of strawberry plants.



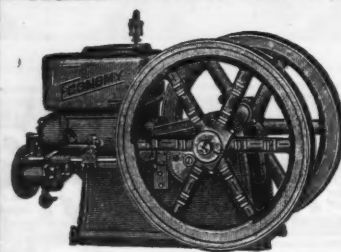
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produced by Baldwin, himself. They are sure growers. The kind that produce profits—big profits—quickly. Though grown by the millions, they have the same care, the same attention, the same cultivation that you would give a choice little garden patch of but a few plants.

Read Our Guarantee

All plants guaranteed to be first-class and true-to-name, packed to reach you in good growing condition, and to please you, or you get your money back. That's a liberal, fair and honest guarantee. You take no chances whatever. Send for the book today. Get our prices. Then rush in your order to O. A. D. BALDWIN, R. R. 11, Bridgman, Michigan

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Built to operate on gasoline, kerosene, natural or artificial gas.

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Shipped immediately from a warehouse near you. Satisfactory service guaranteed. Tested and rated by University Experts, with a large surplus of power.

Don't buy a gasoline engine until you have seen our special proposition as explained below.

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We are making special inducements to early buyers during January and February that will enable you to make a bigger saving in the purchase of a gasoline engine or buggy than you can make at any other time of the year.

If you are interested in gasoline engines, write for our special January and February Engine Proposition No. 72G16.

If you are interested in buggies, write for our special January and February Proposition on American Beauty Buggies No. 72G16.

Don't buy a buggy or engine until you have seen this special proposition, as it means a big saving to you.

American Beauty Buggies

We are headquarters for American Beauty Buggies. We sell more buggies than any other two manufacturers in the country.

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Our American Beauty Buggies have won the lead on account of high quality and low price. We ship them from a warehouse near you. Send for our Special Proposition during January and February, as explained above.



SEARS, ROEBUCK AND CO. CHICAGO.



Reo Quality Is Uniform—Every Reo Car Is a Good Car

YOUR REO MOTOR—the motor that will go into your Reo—into every Reo car—is dynamometer tested. Perhaps you don't catch the full significance of that statement—sounds like "shop talk" to you.

ALL RIGHT, WE'LL EXPLAIN: And in the explanation perhaps we can show you why Reo quality is uniform—why every Reo is just as good—just as powerful, just as sweet-running and just as low in upkeep cost as the best Reo we ever made.

MOST MAKERS CONSIDER it sufficient to subject every tenth or every fifteenth and in some cases every one-hundredth motor to the dynamometer test. (Of course we are speaking now of those leading makers who have this expensive equipment. Many scarcely know the meaning of the term.) It is considered sufficient gauge of the accuracy of workmanship and the power of motor to test one "about every so often."

IF THAT ONE PROVES UP it is assumed that the rest of that day's run will average about the same. If it falls below the requirements in the test it is in like manner assumed that the rest are below standard—and measures are taken to correct it in the next batch.

MEANTIME YOU MIGHT be one of those to get one of those that didn't prove up.

NO; WE REO FOLK do not consider that kind of testing sufficient. It isn't sufficient, for example, that the Reo we sell you "averages up." The Reo standard says your Reo must be as good in every respect as any Reo ever turned out of the factory—a little better if possible, since today's cars ought to be better than yesterday's.

AND SO YOU CAN KNOW—you can feel absolutely sure—that the individual car we deliver to you, has, itself and its every part, passed through the most rigid tests.

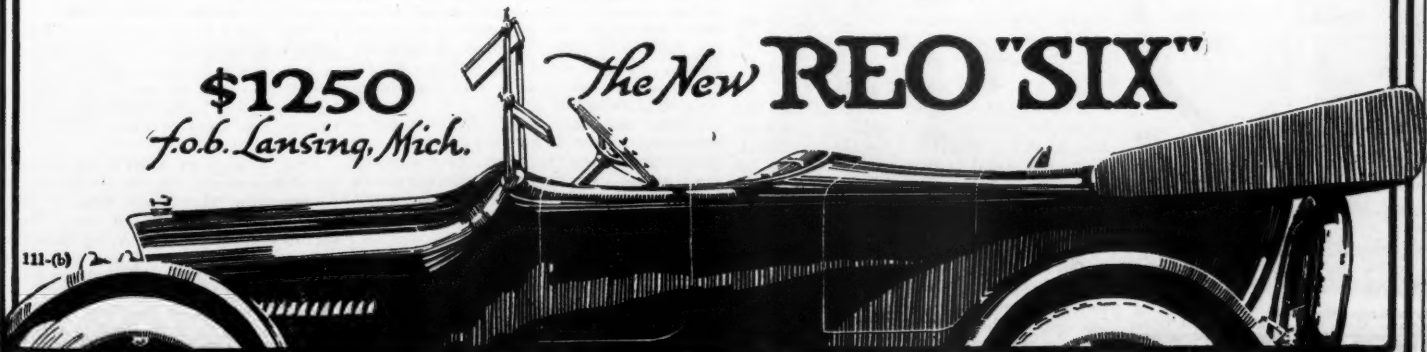
IF YOU COULD VISIT the big 30-acre Reo plant at Lansing, Michigan, and see the four rows of dynamometers with meters and other electrical equipment, you would exclaim, "What an expensive testing equipment!"

BUT WHEN YOU DRIVE YOUR Reo car you will appreciate the economy of a testing system that guarantees every buyer the utmost satisfaction for his money and makes you and every other Reo owner a booster for Reo.

IS YOUR ORDER IN the hands of your Reo dealer? If it isn't, you may be disappointed. Demand is tremendous, and only those who order well in advance can hope to get a Reo.

Reo Motor Car Company, Lansing, Michigan, U. S. A.

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Cold Storage for Fruit Juices

Apple juice, cooled quickly after pressing to 32° F., and stored at this temperature, will keep for from six weeks to three months before it ferments sufficiently to be considered hard or sour. Unpublished experiments on the keeping of raw orange juice at from 32° to 35° F. show that its flavor deteriorates quite rapidly, says Refrigerating World from Bulletin No. 241, U. S. Dept. of Agriculture. An unfavorable feature of the storage of raw fruit juices at from 32° to 35° F. is the development of molds at juice surfaces. It is not improbable that simple measures for the suppression of the mold growths could be successfully used, as, for example, keeping the containers entirely filled, or keeping the juice surfaces well blanketed with a layer of carbon dioxide, or possibly using ultraviolet light. It seems probable, however, that cold storage of freshly expressed juices at from 32° to 35° F. is of but limited application, as the activities of microorganisms are not sufficiently held in check.

Cold Storage of Sterilized Juices

Experiments which consisted simply of keeping bottled sterilized juices at from 32° to 35° F. indicate that certain fruit juices, notably orange, pineapple, and currant, retain their color and flavor far better at low temperatures than at the temperatures of ordinary storage.

Freezing Storage of Raw Juices

Juices may be kept in freezing storage at temperatures approximating -10° C. (14° F.) for many months without marked change in composition or flavor or development of microorganisms.

Concentration By Freezing

Upon freezing a fruit juice, ice separates, the juice becoming correspondingly concentrated. As the temperature falls lower, and lower, more and more ice forms, and the non-frozen liquid becomes more and more concentrated, until finally a solid block of frozen fruit juice, consisting of ice and concentrated, sirupy liquid, results. If the block of frozen fruit juice is now coarsely broken up and centrifugized, the sirup can be removed from the ice, and the latter discarded. A concentrated fruit juice possessing the color and flavor of the original fruit is thus obtained.

In freezing, the juices are placed in containers having slightly flaring sides, so that by warming the sides and bottom the block of frozen juice may be easily removed. Slow freezing is more satisfactory than rapid freezing in an ice-cream freezer, as in the former instance the crystals of ice formed are large, consisting toward the end of the freezing of long, thin plates reaching in toward the center of the container, while in the ice cream freezer the ice forms a finely felted mass from which the concentrated juice is separated with difficulty. On the laboratory scale the crushing and centrifugizing is best carried on in a cool room, thus avoiding undue melting. On a commercial scale this precaution is not so necessary. Temperatures approximating -10° C. (14° F.) are sufficiently low to give to concentrated juices as solids content of about 50 per cent. Such juices ferment very slowly at room temperatures, the presence of sugar and acid retarding greatly the growth of microorganisms.

The method may be easily extended to commercial proportions, as ice crushers and centrifugals, readily obtainable in the market, can be used without modification. A condensed summary of the experimental work with the different fruit juices taken from the laboratory notes follows. Except where noted to the contrary, the conclusions are based on the work of three or more successive seasons.

Strawberry Juices

Raw strawberry juice retained well its original color and flavor in freezing storage at -10° C. (14° F.) for nearly 8 months. The juice could be concentrated easily by freezing, but when partly concentrated became gelatinous, the juice and ice separating with difficulty.

Red Currant Juice

The color and flavor of raw currant juices kept in freezing storage at 14° F. were well retained. Juice concentrated by freezing formed an intensely acid liquid, keeping well the color and flavor of the original juice.

On keeping in storage at room temperatures after sterilizing red currants, the

juices very gradually lost in distinctive flavor as well as in color. The sterilized juices kept in cold storage at from 32° to 35° F. retained their color and flavor very well.

Blackberry Juice

Juice kept from 32° to 35° F. and in carbon dioxide after sterilization was not perceptibly superior in distinctive flavor and color to that kept at ordinary temperatures in air.

Red Raspberry Juice

The color faded and disappeared and the flavor changed greatly, even during six storage periods of 6 months. Bottling the juice in carbon dioxide and keeping it in cold storage at from 32° to 35° F. after sterilization had no apparent effect in retarding these changes in color and flavor.

The color and flavor were excellently well retained in keeping raw juice in freezing storage.

Conclusion

Juices of red and black currants, blackberries, black raspberries, sour cherries and peaches may easily be successfully prepared on the large scale by the methods used for the preparation of grape juice, as they retain their characteristic properties well on being sterilized and stored away. Strawberry juice and red raspberry juice are not suited for preparation on the large scale because of the readiness with which the distinctive colors and flavors change. Huckleberry juice is somewhat characterless. Pineapple juice requires special methods for its successful preparation not necessary in case of the other juices. Its preparation on the commercial scale, however, is of marked promise.

Satisfactory methods for the preparation of lemon and orange juices have not been developed. The peculiar change in flavor of lemon juice stored after sterilization, even at low temperatures, is an obstacle to be overcome before the preparation of the juice on the large scale can be considered advisable. The problem of preparing orange juice is not without promise. It is not unlikely that highly specialized methods in which cold storage will play a prominent, if not dominating, part will be required.



Queer Superstitions

India's population is 325,000,000. Practically all the races and religions of the world are represented. This is an important factor to be considered in approaching this market. Ninety-eight and six-tenths per cent. of the people cannot read or write. Four per cent. of the inhabitants eat regular meals. The remainder eat when they can and where they can. The average native in India lives on less food per diem than any other human being in the world. Religious prejudices are intense. Men willingly die rather than submit to some dismembering surgical operation. The Buddhists will not eat meat or take even a medicine derived from an animal. They died by millions during the bubonic plague rather than take a prophylactic serum made from pepsin and beef broth—because the pig from which pepsin was obtained was unclean to the Mohammedan and Hindu and the killing of this animal, and the bull from which the broth was made, was against the tenets of the Buddhistic faith. I knew an editor in Poona, India, to absolutely refuse a \$3,000 yearly advertisement of a patent medicine because it contained pepsin.

While men earn small daily wages—sometimes as low as four cents—yet it has been estimated by the government authorities that India's native population purchases foreign-made goods each year to the extent of \$1.91 per head. This amounts to over \$600,000,000 annually.

Indians are fond of sweets and last year imported over \$40,000,000 worth of sugar. Clothing is made chiefly from cotton, which is largely grown in the country.—"Leslie's."

Green's Fruit Grower is the best paper I have ever read on fruit growing.
—Herman Schrader, Arkansas.

KEEPING OF APPLES

"Wrap Every Apple, or Put Them in Barrels Between Layers of Sawdust or Paper."

"The apples obtained, get a barrel or tight box or whatever kind of a package that is to be used and early in November or as soon as the weather gets cool, proceed to pack them away. Now this is the secret of it all. Inasmuch as infection comes from the outside, the thing to do is to isolate each apple from its neighbor and everything else for that matter. It is not practical to hermetically seal up each apple but a reasonable approach can be obtained by first covering the bottom of the barrel or box with an inch course of dry sawdust. On this put the first layer of apples, being careful not to bruise them. Fill in the interstices with more sawdust, a layer of sawdust and continuing covering over the top of the tier with a layer of sawdust and continuing this operation until the apples or the space in the barrel is exhausted. That is all there is to this simplest of apple storage except to be sure to keep them in a cool place, far away from furnace and preferably where the temperature is just above freezing.

"Some apple eaters though will demur at the little trouble of getting a bushel or two of sawdust. The next best means is to take old newspapers. Put a thick layer in the bottom of the barrel or box, lay on a course of apples, put on another course of papers letting them turn up at the edges each time so as to form a lining against the sides of the package, and continue the operation until the winter supply of apples is all out of sight in the home-made storage.

"If the apple epicure is willing to take a little more time and wrap each apple separately the way oranges come wrapped in tissue paper, except that the covering should be much thicker, virtually as good results can be obtained as by the sawdust method. I have some apples of a late variety that I wrapped up last November, and now after a year, they are as firm and sound as the day they were taken from the orchard. To be sure there is nothing practical in keeping apples a year or more, but it shows what can be done with a little care. There is this further advantage in packing in sawdust or papers, that the apples retain their flavor and crispness. Everybody knows how soon apples wilt and become insipid when just piled in a box or crate in a corner of the cellar and allowed to shrivel and rot at their earliest convenience."

NEW YORK STATE FRUIT BEST EVER

Receives Grand Prize at San Francisco

Member of Assembly Edward C. Gillett, of Penn Yan, N. Y., this morning received notice that the grand prize had been awarded to the fruit exhibit of the state of New York at the Panama-Pacific Exposition.

Mr. Gillett, for five months, beginning May 1st and ending October 1st, had charge of the New York state exhibit at the exposition. For several years he has been secretary of the New York State Fruit Growers' Association. In that capacity he has had charge of many fruit exhibits. Knowledge of this fact determined Governor Whitman to place Mr. Gillett in charge during the time the exhibit was being arranged and the fruit growers of the state will take much satisfaction from the result.

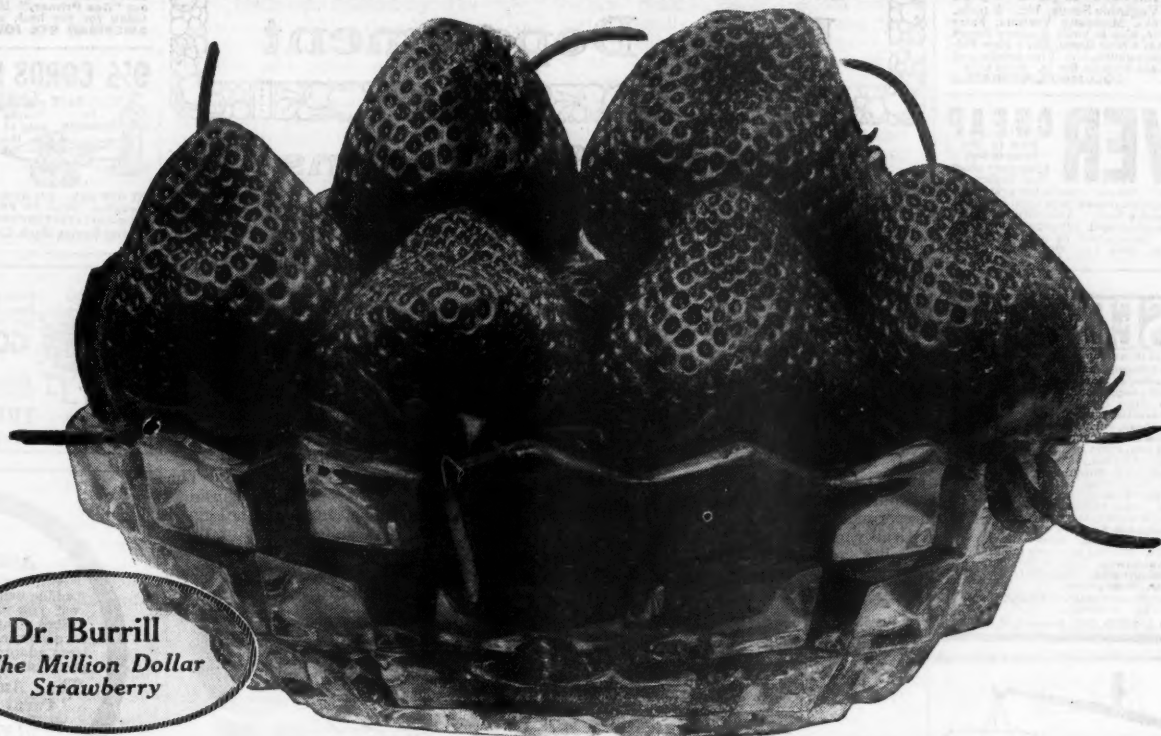
The awards to the New York state exhibit included thirteen gold medals, fifteen silver medals, eleven bronze medals and twelve honorable mentions, giving it more points than the exhibit of any other state, and entitling it to the grand prize.

Large Peach Crop

This year's peach crop in New Jersey was something tremendous—nearly double that of last year's bumper production. Prices averaged about 50 cents per half bushel basket. New York, Philadelphia and Boston receive most of the peach shipments from this state.

Even though we seem to be living in an era of low prices, farmers in the vicinity of Moorestown have made plans to set out more than 100,000 peach trees; the trees set out many years ago having thrived without any appearance of any of the many diseases that this fruit is subject to.—The Fruit Grower.

"Pa." "Yes, Willie." "Teacher says that we are here to help others." "Of course we are." "Well, what are the others here for?"—"Censor."



Great Crops of STRAWBERRIES and How to Grow Them

Dr. Burrill is the boss of strawberries. It is a sure cropper and a big cropper, a prize winner and money maker. Our free book tells where it came from, how it came, who brought it, the number of years it required to get it, and why it was named Dr. Burrill. Write for this book today.

LET STRAWBERRIES BUY YOUR HOME



A Kellogg Strawberry Garden

Kellogg's Everbearers

Kellogg's everbearing varieties fruit continually through June, July, August, September and October. Heavy frost does not check their fruiting. Three months after plants are set you will be picking big, red berries. These plants produce large, fancy berries in great quantities. Many growers are making at the rate of \$1,000 to \$1,200 per acre the same season plants are set. These everbearers will produce more dollars per square rod and do it in less time than anything you can grow. Our FREE book pictures and describes seven of these varieties and tells you how to grow them.

Strawberries on the Farm

We want every farmer to get our FREE book and learn how to grow strawberries and how to add beauty, pleasure and profit to his home. It requires less work and less experience to grow strawberries than common garden vegetables. Strawberries yield more dollars per acre and give quicker returns than any other crop. Strawberries help the housewife to prepare her three daily meals and to earn her own spending money. Grow strawberries and get the boys interested in a profitable business that will keep them on the farm. Boys love to grow money-making crops. Let them join our Boys' Strawberry Club and win a prize. One acre of strawberries will yield a greater profit than 20 acres of common farm crops. Get our FREE book.

Kellogg's Service

When you buy Kellogg Pedigree plants you also get Kellogg's service. Whether you grow strawberries for home use, pleasure or profit you will get full benefit of our thirty-three years of strawberry experience. We never are too busy to answer your questions. Our service department is on the job six days in the week and 52 weeks in the year. We make big money growing strawberries and we enjoy helping others make money. Strawberry growing offers a grand opportunity. The world is hungry for delicious strawberries. Let us help you satisfy the world's strawberry appetite. Get our FREE book and read the letters from both beginners and old timers, who tell about the benefits derived through our Free Service Department.

Strawberry Garden

A Kellogg strawberry garden will supply a large family with all the delicious strawberries they can eat summer and winter without cost. You can have strawberries picked fresh from the vines from June until November and canned berries, preserves and jam throughout the winter. Why should you pay a high price for common strawberries when you can grow the Kellogg kind right in your own garden or back yard? Our free book describes garden selections adapted to all soils and climatic conditions and shows beautiful pictures of the Kellogg gardens growing on the home grounds of customers. Get this book and learn how to supply your family free with the most delicious fruit that grows.

Great Crops of Strawberries and How to Grow Them

Best book on strawberry growing ever written. Worth its weight in gold. Used by agricultural colleges. Fully explains the Kellogg Way of picking two big crops from each acre each year—a big profit in the spring and a bigger one in the fall. Step by step, every detail of strawberry growing is explained in a plain and practical manner. Written by men who have made a fortune growing strawberries. Pictures and describes sixty-one standard and seven everbearing varieties. Tells how to make rain when the sun shines, how to make one acre do the work of two, how to earn a productive home, how to supply your family with delicious strawberries the year round. How to grow strawberries and vegetables on the same ground and at the same time. How to double the value of your land. How to grow strawberries on the farm, by the acre, in the small garden and back yard. And how the wonderful Kellogg Pedigree Plants are grown on the great Kellogg plant farms in Michigan and Idaho. Explains why one acre of Kellogg Pedigree Plants produces more berries than can be grown on two acres of common plants. This book gives sixty-four pages of strawberry facts and thirty-three years of strawberry experience. A surprise and something you should know on every page. Beautifully illustrated and easy to understand. Contains pictures of summer and fall strawberries, strawberry fields and strawberry gardens made from actual photographs. Get book and learn Kellogg way—make \$500 to \$1200 per acre. Free book tells how.



\$977.50 from this acre last season. Our free book tells who owns it.

R. M. Kellogg Company

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Three Rivers, Mich.

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20 Packets Tested SEED For Only 10c

Over half million of these combinations sold.

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Glencarnock, the famous steer, which won 1st prize at the last International, was fed a balanced ration to secure quick growth, depth of fleshing, finish, and good gains. J. A. Stainbrook, Franklin, Ind., whose bushel of corn won the grand championship at the last National Corn Show, fed his crop with a balanced plant-food ration (fertilizer) to secure quick growth, early maturity, solid ears, and a good crop of well ripened corn.

Send for free literature.

Soil Improvement Committee

of the National Fertilizer Association
965 Postal Telegraph Bldg., Chicago

Farm Department

Helpful Suggestions

Written for Green's Fruit Grower by J. S. UNDERWOOD, Illinois

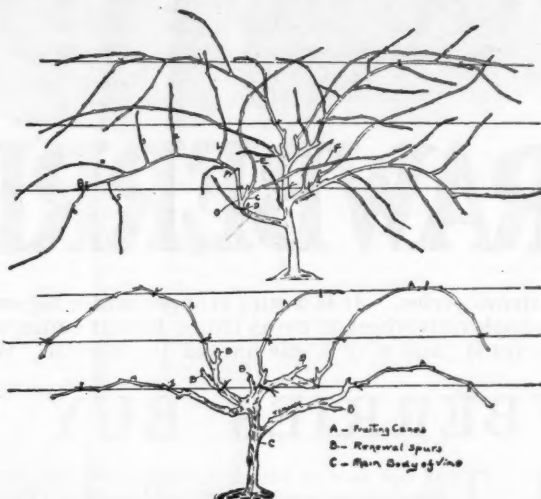
Once a year I get catalogues from nursery companies. They contain much valuable information, besides good descriptions of the various varieties of trees and plants.

When trees have been gnawed by rodents the injured surface must be covered at once, before the wind and sun have access to the wound. The injured parts may be painted or covered with grafting wax. As a rule, trees treated in this manner will grow new bark in the spring.

If one is a beginner and planning to start an orchard, either large or small, I would suggest that he write to his state experiment station and ask for the names of the varieties of fruit best adapted to his locality. The station will gladly give this information, tell when the varieties ripen,

ing to go undone for a single year the crop that year will be larger than if the vines had been pruned, but the bunches will not be as large and the following crop will be smaller than it would have been under a system of pruning. I never leave more than ten eyes on a single shoot. All of the so-called "bunch grapes" can be pruned any time during the dormant season, although I prefer to do the work in December or the first half of January.

It is usual to apply manure underneath trees as far as their branches extend overhead, but this is not a correct system. The roots of the cherry tree grow out considerably farther than the length of the longest branches, and the same is true of other trees. The proper method is to spread the manure, whether farmyard or artificial,



The upper cut represents a grape vine before pruning. The lower cut represents the same grape vine when pruned as shown by the Iowa Experiment Station bulletin No. 160. Bear in mind that where new canes are cut off in pruning two or three buds should be left at the base of each one of these branches thus cut off. These three buds will furnish the bearing wood for next year.

their faults and disadvantages. After he learns what he wants, it is a good plan to buy the stock direct from the nursery.

Pruning Grape Vines

In pruning grapes, bear in mind that the main principles of the operation are based on the fact that the fruit is borne on the season's growth which grows from the previous year's shoots. If we allow prun-

Pruning Large Trees

In pruning big trees where a ladder is necessary, I use a belt around my waist, to which is attached the pruning tools. This keeps me from having to go up and down the ladder often to get the kind of tool I want. It was a little awkward at first to reach around my back for a tool, but I soon got used to it. The little trouble involved to make the belt and use it is repaid by the travel up and down the ladder that is eliminated.

In cutting off a large limb of a fruit or shade tree, I proceed in the following manner: I cut off as much of the outer branches on the limb as possible, if it is very large, then near the base of the limb (about 18 inches to two feet) saw from the under side of the limb half way through it, then about an inch further out on the limb saw from above until it is severed from the tree. This prevents the limb from breaking off with its own weight and tearing the bark on the stub. After this has been completed the stub is sawed off close to the tree. The stub that remains is in the direct flow of the sap of the tree and hence it forms a callous and heals over very rapidly, thus preventing the tree from becoming diseased. If the stub were left several inches in length the sap would not be able to get to the end of the stub and it would heal so very slowly, if it healed at all, that the stub would become diseased and decay would set in. I always paint over the wound to keep out disease, allowing about a week for the wound to dry before applying the paint.

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When you write advertisers Please mention Green's Fruit Grower.

San Jose Scale

When the trees are dormant is the best time of the whole year to combat the San Jose scale, as we can apply spray materials of sufficient strength to do effective work without the trees being injured through their foliage. The lime-sulphur solution is the best remedy of which I have knowledge. It is very important that the spraying be done before the buds begin to open in the spring, and especially is this true in spraying peach trees. Winter is a good time, too, to war against borers. In this work care must be taken not to girdle the tree, and the grain should be cut across as little as possible. If a sharp-pointed wire is used to probe the burrows it will not be necessary to use the knife nearly so much as would otherwise be the case.

New York State Auction Sales of Apples Beneficial

My dear Mr. Green:—I have your memorandum in criticism of the New York State auction sales of apples. I do not know any system by which poor apples may be sold at the price of good apples. I am not sure that such a system would be desirable if it were possible to organize it. The success of the apple orchard auction sales this year has not been so much due to the number of orchards sold, as to the fact that it established a standard price for high grade apples for the whole state. During the month of August the trade papers announced that \$1.50 for grade B and \$2 for grade A would be the top prices for State apples this year. No sales had been made up to the time of the first sale, September 1st, higher than \$2.00 and orchards were brought of inexperienced growers all the way from 90c a barrel to \$2.00 a barrel. There have been no orchards sold at these prices since the Red Hook sale, and the highwater mark was secured at the Onondaga County sale in the \$3.40 per barrel for two orchards of the county. I think this result was worth while even though we admit that the auction sales, hastily inaugurated as they were, may not be successful in marketing all of the apples of a county or a state.

As to the contract, I do not see how a lawyer would be able to improve on it. The apples were sold to be packed by the grower in A and B grades. If the grower knows what A and B grades are, he can pack them in that way and get his money for them. He has in his possession 25% of the total sale of the orchard. There is no question about the terms of the sale as these terms are made clear in the catalogue which is published, and form a part of the contract. The only question involved is what apples shall go into different grades, and what must stay out, and this is a question that no lawyer and no contract can decide. It is really the application of the contract. My own opinion is that the Agricultural Department, which is charged with the duty of enforcing the law and provided with the means of instruction to farmers through the Farm Bureau, should instruct growers as to their rights in matters of this kind, and if the Agricultural Department does not do so, the Department of Foods and Markets will assume the function and stand by the grower in his rightful interests. —John J. Dillon, N. Y.

How to Make a Tump

A tump makes a fair substitute for a cellar in emergencies when cellar-room is wanting to care for products subject to injury by freezing. Potatoes, root crops, and even apples may be kept in good condition all winter if properly tumped.

Care should be taken to choose a place for the tump where the ground is dry and well drained. A tump made in the shape of a round mound is better than one made with a ridge, since it is easier to protect a given quantity of potatoes or the like from frost by a circular mound than by an oblong one. Dig a pit to a level below the local frost line, cover the bottom of the pit with dry straw, pile the vegetables or fruit to be tumped upon this straw, pack straw over the top of the pile, then bank up all-round with a deep covering of earth. The surface of the tump should be closely packed, so as to shed as much water as possible. It is a good plan still further to protect it from rain and snow by a roof of some sort, if only an old tarpaulin or piece of oilcloth.

Orchards Ruined by War

After our Civil War the soldiers who came back to the farms were not satisfied with the slow and simple methods which answered before the war. Within a few years there was a great over-production of food. says Rural New-Yorker. Much the same thing will follow in Europe with those crops and products which can be quickly grown or which represent but a few years of preparation. The apple crop does not come into this class. Already some of the finest apple sections of Europe have been devastated and the orchards have been destroyed. It will require 20 years or more to replace them, yet the European demand for apples will continue to grow. Here then is new opportunity for American fruit growers. We believe that the export trade in fruit after this war is ended will grow to immense proportions. Europe may be able to supply the greater part of her bread and meat, but good orchards are not restored in less than 20 years, and this fact is to give opportunity to American growers.

More Fruit

The average family does not eat enough fruit during the year. As a nation we would

be more healthful, more vigorous mentally and physically, more efficient and longer lived if we ate less meat and heavy foods of all kinds and replaced some of that decrease with fresh, canned and preserved fruits. One of the most delightful as well as one of the most desirable of our native fruits to use in this change in our diet is the peach. Gently sub-acid, juicy, with a delightful and enticing flavor, it stimulates the activity of the digestive organs, cools and purifies the blood, regulates the bowels and does away with the necessity of purgatives as well as giving as much actual nourishment as does most any of the fruits. Eat more peaches and you will be healthier and happier; and if used as a substitute rather than an addition to the regular diet, the daily bill of fare need not be increased in cost. Eat them during the summer while they are fresh; can and preserve them for use during the months of the year when they cannot be had fresh at a reasonable cost and are needed even more.

Our Country

There is no fairer land on earth than this in which our lot is cast, no other land in all the continents so favored as ours to-day.

We have the promise of enough and to spare, the prospect of record-breaking yields of corn and wheat, and hay and fruit, at a time when millions in other lands lack food. Our splendid surplus above our needs could not have come at a better time for the human race, for there is only too much to render it probable that every spare bushel of our grain and legumes will be required in Europe before twelve months have passed. Perhaps it is providential that the year of our greatest yield should be the year of the old world's greatest need.

A Yale professor was dining at a Southern hotel, and had been asked in quick succession by three different waiters if he would have soup. A little annoyed, he said to the last one: "Is it compulsory?" "No, sah," answered the waiter; "it am mock turtle." —Lippincott's.

Aunt—"Bobby, how can you be so selfish with your apple? Don't you know that a pleasure shared is a pleasure doubled?"

Bobby—"Yes, but an apple shared is halved."—Boston "Transcript."

GOULDS SPRAYERS

HAND AND POWER

Our line is complete! The enthusiastic amateur gardener, the general farmer and the large commercial orchardist will each find in the Goulds line a sprayer that exactly fits his requirements. Our sprayers for 1916 embody the experience of more than 65 years. Efficiency, durability and economy are combined in Gould Sprayers.

In the greenhouse and poultry yard, the "Bordeaux" sprayer (Fig. 1467) and the "Handy" Knapsack sprayer (Fig. 1558) are indispensable for eradicating vermin and keeping fungus diseases in check.

The farmer with a small home orchard needs the "Pomona" (Fig. 1100). Every feature that our long experience has proved desirable in a barrel sprayer has been included in the "Pomona."

The "Admiral" (Fig. 1508), is a double-acting sprayer with sufficient capacity to supply four leads of hose, or two leads with two, three, or four nozzles each. The "Admiral" can be mounted on a truck, or loaded on a wagon or sled with several barrels of solution.

Our new book— "How to Spray"

will help you to plan your spraying campaign for the coming season. You will find a sprayer made to exactly meet your requirements. Send for your copy today. It contains Goulds Spraying Calendar which will give you complete information regarding the preparation and use of sprays for every purpose. The effectiveness of spraying depends entirely upon how it is done; and to do the work properly a pump that is designed right and built right must be used. Goulds pumps, fittings, and entire equipment are constructed of the best materials and made so as to reduce the time, labor and amount of mixture needed to the minimum and so as to give a spray which covers the plants with exactly the proper amount of solution. A Goulds Sprayer will give good reliable service years after the cheapest outfit is worn out—and every year it will save its cost by the amount of mixture it saves. Be sure to send for book today. It is free. Write our nearest office, addressing Dept. G.

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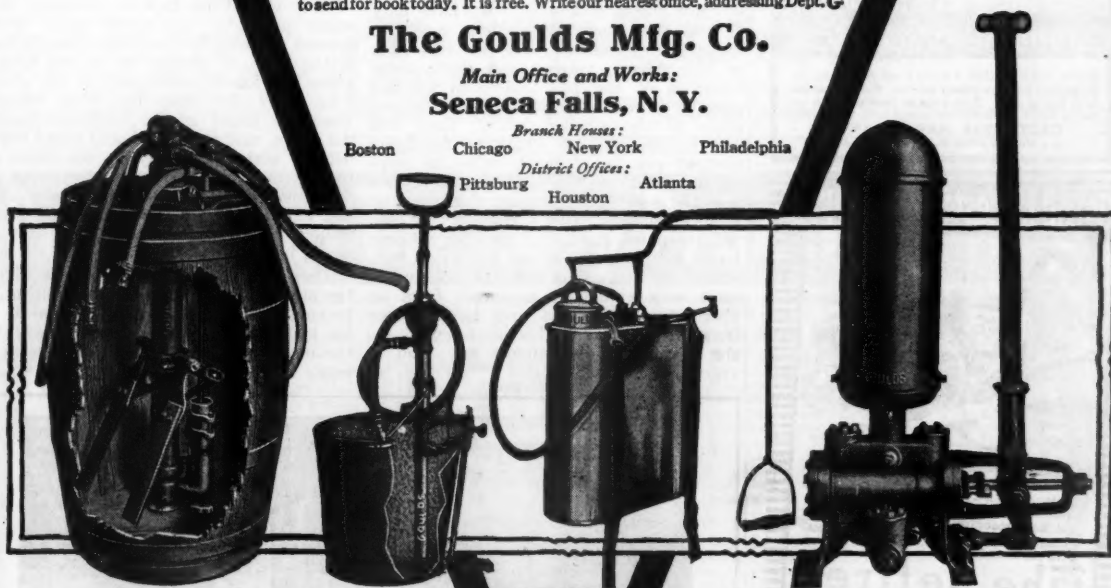


Fig. 1100 "Pomona"
Barrel Sprayer

Fig. 1467 "Bordeaux"
Sprayer

Fig. 1558 "Handy"
Knapsack Sprayer

Fig. 1508 "Admiral"
Double Acting Hand
Sprayer

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In small or large lots at wholesale
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Best of references. Write for
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Makes its light from common gasoline. No
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oughly, quickly and cheaply you can rid your orchard
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reaches. One barrel equals three barrels of lime
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Fertility of Orchard--Fruit Garden

It is a common fault with many fruit
growers to think their trees, vines and
berry bushes ought to bear from year
to year with little or no manure of any
kind added to the soil. This may be
true in some places for a time, but it will
not last long under ordinary treatment.
Some of the rich alluvial soils, or others
that are full of humus and available pot-
ash and other plant foods, will keep the
trees, etc., bearing abundantly after they
would fail to do so in most ordinary soils.
But, even there the natural supply that is
ready for the immediate use of vegeta-
tion gives out after years of cropping.
We have all seen this in many of the
orchards in our own neighborhoods.

The great question is, what shall be
done to make the fruit lands productive
at reasonable cost.

There is nothing better than good stable
manure to enrich almost any kind of
land. Inexperienced persons talk of it
as being injurious but, where one tree or
plant is hurt by it there are thousands
that are famishing for lack of manure.
Put on all the stable manure that you
can get at fair cost, either from your own
farms or elsewhere. Spread it broadcast,
being careful not to pile it around the
bases of the trees, but all over the ground,
and especially, just under the tips of the
branches. The time of the year when it
is to be applied is not important. It does
about as much good one time as another,
unless it interferes with tillage. The main
thing is, to get it on. As a top dressing
for the old neglected orchards that are in
grass, there will be found great benefit. It
will put new life in them. It is a wonder-
fully good thing for berry bushes and all
else that grows in the fruit garden. Spread
it thickly along the rows, completely cover-
ing the ground. If it is applied this fall
or winter the essential parts will leach out
and be taken up by the soil, ready for
the roots to feed upon the following spring
and summer. It is an important truth,
and one that many who have long been
tilling the soil ought to know far better
than they do, that the sooner manure is
put upon the soil after it is made the better.
My plan has been for many years, to haul
it directly from the stable or feed lot to
the field.

But, there is not a sufficient supply of
farm manure to enrich the orchards and
other fruit plantations. Besides, a large
part of it is wanted on farm crops. We
are compelled to seek other sources of
fertility. The soil itself has almost in-
exhaustible supply of potash and phos-
phoric acid and the air is full of nitrogen.
It is our privilege and duty to lay hold
of these stores of wealth. We have only
to use the means within our reach to
make them available. The legumes, such
as the clovers, vetches and the various
branches of the pea and bean families
may be grown in the orchards and among
some of the smaller fruits. They will
add humus, without which no fertilizing
element can be of much value to crops
of any kind, provided, they are worked
into the soil, instead of being grown and
then taken off. The stirring of the soil
will do much good. It tends to set free
latent fertility, and allows the air to pen-
etrate the soil. The soil will hold much
more water when it is porous from an
abundance of humus and having been
frequently stirred. This is essential to
the best growth of almost any kind of
vegetation.

The plan of mulching, which is just
now being pressed for orchards, is founded
on the principle of keeping the soil loose
and moist. That is nature's method.
All that she plants she mulches with leaves
and decaying wood. If we can do as nature
does we will succeed. Some are making
good headway in this direction, as we learn
by accounts of the few who are trying it.
All grass and weeds are mown and left
on the ground where they grow, or a part
is put thickly about the trees. This de-
cays and finally enriches the soil, which
feeds the trees. Their roots are in rich,
loose soil, that can rarely dry out as that
does which is exposed to the sun. It can
never be plowed without serious injury
to the roots; and it is claimed that it is
neither needful or desirable to do so. How
this may work out is yet to be proven by a
series of experiments, covering several
years. No doubt it has worked well in
some isolated cases, and may be of much
wider application than we now generally
believe. We ought to hope it will come
out that way for, it would be a great saving
in several ways.

The use of chemical manures is by no
means belittled, but, they should be wisely
and not blindly used. Potash in its
various forms is one of the best of all, for
the fruit grower. Murate and sulphate
of potash are, perhaps the best. Nor
is there any danger in their use. Where
more than enough is applied it will sim-
ply be left in the soil for another time,
with no loss of consequence. Nitrogen
in the form of nitrate of soda or bone is
all right, if used in moderation. But,
these plant foods should always be used
in connection with decaying vegetable
matter, either already in the soil or put
in at once. In no case let anyone think
that big crops of fruit can be produced
by trees or plants of any kind without a
goodly supply of materials from which to
make them.

Reasons for Keeping Sheep

As time passes and our soils are chang-
ing, and seed pests multiply, new reasons
are found why sheep should be kept on the
farm wherever it is possible. Prof. Thomas
Shaw, an experienced flockman refers to
these things when writing:

When weeds are young and sappy the
sheep are in a sense insatiable devourers
of the same. There are but few kinds of
weeds that they will not trim down and
consume into good mutton if they have
access to the same at a comparatively early
stage in the growth of the weeds.

They should be kept to consume the
waste products. On every farm these
abound not only in the form of weeds but
in the form of grasses of various kinds.
These are found numerous in the grain
fields after the grain has been reaped.
They are found in the highways beside
the farms, and they are found along fence
borders whatsoever may be the build of
these. The sheep that are given access to
these will virtually clean up everything
and in good form. The food thus eaten
would otherwise be wasted, at least it
would in large measure.

They should be kept to supply meat for
the household. The farmer is much prone
to confine his meat diet to salt meat, as
for instance to salt pork, and largely for
the reason that in this form meat is most
easily kept.



It Pays to Have a Few Sheep on Your Farm

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For Profitable Pruning

Horticulturists have prac-
tically designed Bartlett
Pruning Tools. Their sug-
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perience have combined to pro-
duce pruning tools of quality that
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long pole deduct 50c on each length.

Two-Hand Pruner
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and easy—does not
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right handed—25-
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Pruning Saw
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angle. \$1.75
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Prune." **BARTLETT MFG. COMPANY,**
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dispensable for the man with a hillside orchard.
Steel frame hangs 1 ft. from ground. Easily drawn;
front wheels cut under for short turning. Pump
capacity, 600 gallons per hour, 150 lbs. pressure.
Spray mixture automatically agitated, and there's
enough pressure to do the most thorough work.
Domestic sprayers are known as "The Quality
Line." Our interesting booklet, "Important In-
formation about Spraying," contains spray calen-
dars, formulas and other valuable information. Send
for it and tell us your spraying necessities.
Also gasoline engines and pumping outfits.
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\$10,000.00

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pads. Has Automatic
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and draws the broken
parts together as you
would a broken limb.
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"Health's Best Way— Eat an Apple Every Day."

WEALTHY
Grown By
Blank & Blank, Sodus, N. Y.

The above is a copy of a card 6 inches long by 3½ inches in depth. Cards similar to this are placed in baskets of peaches, pears, apples and other fruits grown and sold in western New York. This is one method of advertising adopted here by fruit growers. By the above means the grower advertises the fact that he is growing the Wealthy apple and that any one desiring high grade Wealthies should send to him for the fruit.

It looks as though the advertising of fruit for sale in the local market of the country were just beginning. Look at our friend Hale of Connecticut, getting up a big outdoor show at the close of the peach picking season attended by 6,000 people. What an advertising scheme this is. The whole country will be informed of this notable event at Mr. Hale's home. Then think of the Rochester, N. Y., peach grower who accidentally left hundreds of baskets of fine peaches along the highway, intending to load them onto wagons and cart them to the city the next morning, but discovered later that the peaches had attracted the attention of numerous people passing that way in automobiles who bought all of his picked peaches before sun down. After that event this peach grower kept a bulletin board in front of his place continually, telling passers-by what he had in the way of fruits for sale.

C. A. Green:—To keep apples through the winter I get some cork chips at the fruit store that grapes are packed in, put in a little cork in bottom of barrel and then a layer of apples, then cork again till the barrel is full. I have kept apples several weeks longer in this way for the past two years. Shavings and sawdust taste of the wood in apples packed in it.—E. B. Sheparelles, Mass.

Fireworks at Fruit City

By F. W. Wilson

As might be inferred from the name, Fruit City, Missouri, is a fruit growing center.

The Railroad Improved Land Association owns 7600 acres near Fruit City, 400 acres of which are planted to apple and peach trees and grapes. 300 additional acres are to be planted this coming Fall and next Spring.

Mr. Walton, manager of the property, states that every one of the 38,000 trees and vines on the tract were planted with dynamite; that although the year 1914 witnessed the severest drought in twenty years in that section, he lost but 175 peach trees out of 10,000 planted. This he attributes to having blasted the holes for the trees, thus conserving the moisture in the feeding bed and allowing the roots to go down deeply, where they were beyond the reach of the dry surface conditions.

In recent years, orchardists have been great buyers and users of explosives. That's where the fireworks come in. Prior to 1910, the dynamite manufacturer that imagined he would some day find a market for his wares among fruit growers would have been looked upon as crazy.

Time works many unexpected changes. A method unheard of, unthought of, even undreamed of a few years back becomes standard practice a very short time later.

"OL' Nutmeg's" Sayings.

Written for Green's Fruit Grower by
Joe Cone

Straws show which way the cider goes. The cure that cures everything won't cure anything.

It's the specked apple that spoils the hull bar'l.

The pride uv the Tom turkey goeth before fall is over.

Jealousy should be kicked intew oblivion with the sharp toe uv common sense.

It is pollericy tew lay fur the hen that doesn't lay fur yew.

Ef them ez hez gits then uv course ev'rybuddy wants tew be them ez hez.

Ex a rule they's more trewth than poetry in prose, an' more money ez well.

Take good keer uv the pennies an' the dollars will take good keer uv yew later.

Ef life is what we make it then it behooves us tew be keertul an' conscientious workmen.

Squeaky machinery is bad fur the ile bizniz, but a plaguey sight wuzz fur the machinery.

Jest becuz a man gits sidetracked is no sign that he's aout uv the race altergether. With some men they's no punkin pies like their mothers' made whether they ever made any or not.

Mos' ev'ry man knows his own faults well enough, but he's mighty 'feared that somebuddy else will dew the same.

Don't caout yewr chickens afore they are hatched, but ef yew dew put in quite a few extra fur good luck.

The on'y good fly is a dead fly, but he ain't good ef he hap's tew be in yewr plate uv soup.

When a man tells yew they's a long hard winter afore yew, tell him "yes, an' a nice, soft spring ahead uv thet."

Jedgin' frum the way some folks eat a 'Thanksgivin' dinner it is no wonder the av'ridge turkey looks fur a high roostin' place.

Many a boy's stummick ache at 'Thanksgivin' time is due tew the fac' that he's be'n tryin' tew git even with the Tom turkey thet picked at him a few days previous.

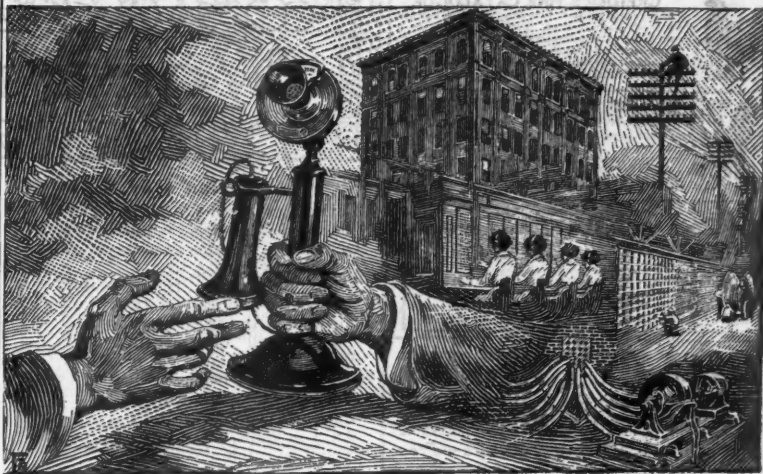
It is useless tew arger with a man who likes tew arger jest fur the sake uv argerment. The best way tur dew is tew talk him aout uv the idee ez soon ez possible.

Corbett writes: "Every successful attempt to adorn a city lot, a suburban place, or a park has a valuable influence on the community in which it is situated. It furnishes an object-lesson which others will follow, and in this way serves the useful purpose of stimulating in others a love for the beautiful in nature. Fortunately the beauty which is produced by ornamental planting can not be selfishly kept for the exclusive use of the owner. Every passer-by can take the full measure of his capacity without in the least detracting from the value of the plantation to its owner. Every person who plants a tree is a public benefactor."

We owe it to posterity to plant trees to take the place—some day—of those so thoughtfully and considerably planted by others for us. We should not let the selfish thought that we may not live to see our efforts attain their fullest glory, dissuade us from the good work.

Every generation should provide for the one to follow. Girard said: "If I knew I were to die to-morrow, I should, nevertheless, plant a tree to-day." One with a taste for the beautiful in nature is moved to exclaim with the poet:

"Ah, bare must be the shadeless way,
and bleak the paths must be
Of him who, having open eyes, has never
learned to see
And so has never learned to love the
beauty of a tree."—Rural Life.



Anticipating Telephone Needs

When a new subscriber is handed his telephone, there is given over to his use a share in the pole lines, underground conduits and cables, switchboards, exchange buildings, and in every other part of the complex mechanism of the telephone plant.

It is obvious that this equipment could not be installed for each new connection. It would mean constantly rebuilding the plant, with enormous expense and delay. Therefore, practically everything but the telephone instrument must be in place at the time service is demanded.

Consider what this involves. The telephone company must forecast the needs of the public. It must calculate increases in population in city and country. It must figure

the growth of business districts. It must estimate the number of possible telephone users and their approximate location everywhere.

The plant must be so designed that it may be added to in order to meet the estimated requirements of five, ten and even twenty years. And these additions must be ready in advance of the demand for them—as far in advance as it is economical to make them.

Thus, by constantly planning for the future and making expenditures for far-ahead requirements when they can be most advantageously made, the Bell System conserves the economic interest of the whole country while furnishing a telephone service which in its perfection is the model for all the world.

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One Policy

One System

Universal Service



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Clear your land the KIRSTIN way—the quick, easy, sensible, economical way—the way that has proven practical under all conditions. One man handles and operates the KIRSTIN—NO HORSES REQUIRED. And yet it is easier for a man to use the KIRSTIN—it is LESS and EASIER WORK than with any other Puller or by any other method. The improved double leverage KIRSTIN, the new short lever model, stands the extreme tests of the very hardest stump pulling. The KIRSTIN's wonderful compound leverage principle makes any man master of the toughest stumps anywhere. In addition to its practically unlimited power, the KIRSTIN

Changes Speed While Pulling a Stump
No other stump puller at any price contains a similar device. With other machines you keep pulling at the same rate of speed even after the stump has broken loose and the hard pull is over. This is a big waste of time that the KIRSTIN Multiple Speed-Changing feature entirely overcomes.

With a KIRSTIN you can easily pull stumps fast enough to keep your team busy dragging them away.



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No. 100 AUGUST, 1915 \$1.00 a Year
Are you a busy mother? **LITTLE FOLKS MAGAZINE** will help you. It is planned just for little people. Even if they are too young to read, the colored cut-out dolls and the picture-stories will keep your babies happy for hours. And there are true stories of real children, and wonder tales of fairy children, an animal or nature story in each number and little poems, funny and wise and beautiful for them to learn.
To our Mothers and Little Folks we are offering Little Folks Magazine with Green's Fruit Grower both for a year for only "ONE DOLLAR." With every subscription to this combination received during January, we will send FREE
An Attractive Food Shelter for the Birds
This you can put up on a tree in the yard and invite the birds to live near you by giving them food during the next few months when their food is so scarce. Send your subscription NOW and get a Food Shelter FREE. Address Green's Fruit Grower Company, Rochester, N. Y.

Woman's Dept.

Catchin' Cold
Catchin' cold and gettin' well That's 'bout all there is to tell Of this life, it seems to me, All the way from A to Z. Someone asks you, "How d'ye do?" An' you've only got jes' two Answers, if the truth is told—"Gettin' well" or "Catchin' cold." When your throat is feelin' sore An' your head begins to roar Then you know that if you wait Patiently, you'll feel first rate. An' you know, when free from pain You'll be catchin' cold again. That's 'bout all there is to tell— Catchin' cold and gettin' well.
—James Whitcomb Riley.

Worth Knowing
A slice of potato is an excellent thing to clean white oilcloth which has become disfigured by hot cooking utensils. If when you are baking anything the oven gets too hot, put in a basin of cold water instead of leaving the door open. A bill file with its point protected with a cork is a useful little object to hold a spool of carpet warp for crocheting. Pots and kettles should not be scraped. Use a piece of sandpaper to remove any burned particles or discolorations. Sterilize raisins, currants, figs, and dates before using, by putting in a strainer over a steaming kettle. Don't leave matches, knives, hot water or other dangers within reach if there are children in the house. Cookies should be put into a cloth-lined stone jar when hot, if you would keep them melting and crumbly. When silver has become discolored with egg, dip a damp cloth in salt water, rub the silver; the stain will disappear. Keep folded newspapers handy upon which to place soiled pots and pans, and save cleaning smutty marks from the tables. If the stepladder slips, paste a piece of old rubber over each support; this will not only prevent a fall, but it will protect the floors. When a box of sardines is opened, it should be drained of its oil at once and the fish turned out. To give a relish to tomato sauce chop a green pepper with onion. This is good served with omelette. A very little glycerine smeared around the glass stoppers of bottles will keep them from sticking. If nuts are soaked in hot water a few hours the meats will come out whole and with much ease. After boiling beets, drop them into cold water, and the skins can be easily rubbed off by the hands. When you wish to cut citron in thin slices place it in the oven and let it heat through. The green shoots of a chives plant, are excellent for flavoring when one wants only the faintest suspicion of onion. Knives can be cleaned in half the usual time if the knife board be thoroughly warmed in front of the fire before used.

Beautifying Home
And next, it seems to me, he has the right to memories of beauty in the home. Children are far more susceptible to beauty than many of us realize, and certainly the effect of beauty on the child's life can hardly be over-estimated, says Mother's Magazine.

No home, however poor, need be without the presence of beauty. A little care and thought and taste can do such wonders with even the humblest surroundings. Well-chosen colors, a care for restful and beautiful light in the rooms, simplicity and sincerity in the furnishings; a few copies of great pictures, the presence of a few of the great and well-loved books, the banishment of all trashy or tawdry ornament, the beauty of cleanliness and freshness, the presence of quiet and orderliness, a few flowers, leaves, or branches from here or there—and you have asked beauty to be your guest, and have invited loveliness to share your home with you.

Further, home to be a delightful memory must have the beauty of sociability. It must be a place where people come to share its comforts, its benefits, and its ideals. That home can hardly be called a home which does not open its doors often.

Besides being a healthful place, a beautiful place, a sociable place, home, if it is to afford us enriching memories, must be an intimate and sympathetic place, possessing that finer intimate sociability which grows up between the true home and its inmates. In all right living and thinking we are partakers of a kind of immortality, for death does not touch these things.



While I would not throw away the turkey, as our artist suggests in the above cartoon, it is my opinion that the apple and other fruits are crowding out the meat diet. We are not consuming as much meat as in former years.

At the Family Table
Ohio State Journal

In her first lecture Miss Payne spoke in eloquent terms in favor of the family table, where all members of the family should be present at the various meals. There is nothing that so breaks down the family spirit as eating at various times. It has become too much the habit for members of the family to stroll in one at a time, at any time, and eat what happens to be on the table. This is particularly the case at breakfast and luncheon. It is doing more to break up family life than anything else, and breaking up family life is a menace to humanity and the country.

The right thing to do is to get together at meal time. It is always a pleasant event. It is an inspiration and delight. It helps the morale of a family. It contributes to the health of all. It is a phase of patriotism. It is a sort of religion. This breaking away from home ties is having a sad effect upon the country. It helps build up the materialism which is crushing the soul out of the nation. The home is the cornerstone of all that is noble in our national life. Break up the family circle and every human interest suffers.

Relishes, Condiments and Tonics
Jennie M. Buckley

Relishes and condiments are first cousins and almost inseparable, for condiments are accessories to your meals which give a relish for food. Any member of the gherkin family or the artichoke family or lettuce, or spinach, or anything of this kind that must have an accompaniment of vinegar to make it complete is a condiment.

The seasoning in food is a relish as is the radish, nasturtium seed, garlic and sheep sorrel.

The onion is a wholesome food. It belongs to the genus Allium. It is related to the Welsh leek and for strength and durability one could easily imagine it as being a sliver from the Rock of Gibraltar.

In Europe the caper is used as the principal relish. It is a low shrub that grows from the joints in old walls, from fissures in rocks or amongst rubbish. The buds are gathered before the flowers expand and preserved in vinegar. In this country the caper would be classed as a condiment.

Almost all the territory east of the Mississippi river has the sassafras among its timbers and thousands of people love the tea made from the bark on the root of this half dwarf tree, especially if the tea is combined with the sap from the maple tree. When the tea is mixed with milk and sugar it forms the famous drink known as Saloop. The young shoots of the sassafras are made into a kind of beer in Virginia, while in Louisiana the leaves are used as a condiment in sauces. The common spinach, although rather tasteless, is considered an excellent relish to be eaten with any kind of meat, after the large fleshy leaves have been deprived of their moisture and then cooked in butter or in a rich gravy with a few sorrel leaves added.

Funny about the sorrel leaves isn't it? With some dishes, you know, you are told to use bay leaves, just a matter of taste, I suppose, or a yearning for harmony of color. A curious fact about spinach is that from the water in which it has been boiled as good match-paper can be made as is made by a solution of nitre.

The garden cress or pepper grass as it is called is not a beautiful plant at all, quite dwarf, with small white flowers which produce a winged seed pod. It is grown in gardens chiefly for its leaves which are cut and used while young with those of mustard for salad. In fact the cress is quite

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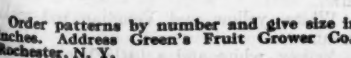
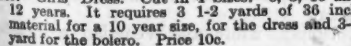
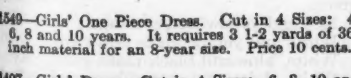
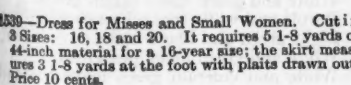
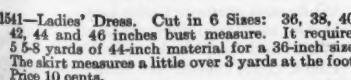
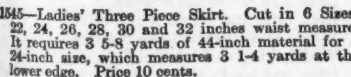
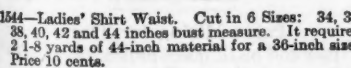
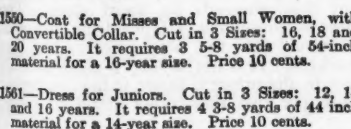
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Aunt Hanna's Replies

At What Age Should I Marry?

Dear Aunt Hanna:—I would like to ask your advice as regards the age at which a girl or a young man should marry. Esther.

Aunt Hanna's Reply:—This is an important question but one that cannot be definitely answered. Marriage being the most important step to be taken during a lifetime, the age for marrying should be carefully considered. The tendency of individuals is toward early marriage and there are many arguments in favor of early marriages which are obvious. Young people assimilate in habits and tastes, conforming one to the other more easily and with less friction than older people. One reason why marriages late in life, at the age of forty, fifty or sixty years, are often unhappy is that the habits and peculiarities of these individuals have become so fixed they are unchangeable, thus leading to friction and sometimes to divorce, but more often to unhappiness and a determination to grin and bear it.

One objection to an early marriage is that a girl or a boy of eighteen, twenty or thereabouts, has not mature judgment as a rule and thus is not fully capable of making a wise selection of a lifelong mate. In other words, the partner that a person of twenty would select for marriage he or she would not be likely to select at the age of twenty-five or thirty years.

Then there is the question of support. How can the girl decide whether the youth of twenty or twenty-five is competent to support her and the children that may bless their home? The man has had little chance to test his business ability, which is something quite rare the way the world goes, there being in fact only a few of the men who are competent to handle business successfully. Much less does the girl know whether the young man will prove to be competent to manage business affairs. At the age of thirty or thirty-five the man has demonstrated usually the fact that he is a business man or that he is not, or that if he is not capable of managing his own business he may be of great value to some other man's business, in which he could command a handsome salary. But at the age of twenty or twenty-five the man's ability is a thing to be discovered, a problem which in many instances can be answered by a big cipher.

Yesterday a bright looking young man called on me accompanied by a pretty little girl whom he introduced as his wife. He was out of work, he was likely to be turned out of the house which he had formerly leased for non-payment of rent. He did not know where he would find a place to sleep the next few nights. There have been many such cases as this in the large cities during the past severe winter. This interesting couple married for love without carefully made plans for the future. They did not take into account that the factory where they had been working might be closed, or that sickness might overtake one or both of them. They were going ahead taking their chances, and this is what a large portion of human kind do in getting married. They marry for better or worse, and often for worse as far as the establishment of a permanent home and a permanent pursuit and occupation are concerned.

Whether you should marry now or later depends somewhat upon what opportunities you have. There are many people who have no choice. They must marry late, and others have such good opportunities they feel they must marry young. After careful consideration I would suggest that for the average individual the age of twenty-five for the girl and thirty for the man is the desirable age for marriage.

In my judgment the Fruit Grower is the best paper of its kind in America. —J. H. Lamond, Zion City, Ill.

Relishes, Condiments and Tonics

(Continued from page 22)

extensively grown in gardens now, for with its grateful flavor it furnishes the foundation for the best of our small condiments. The leaves when grown are often used for garnishing the same as are the leaves of parsley.

When blanched, the leaves of the dandelion are used in small salads, but the chief use of the dandelion is in a medical way. Its root stocks are used to make a tonic, that is widely used, especially in liver troubles.

A tonic is a medicine that increases the strength and gives vigor of action to the system. This the dandelion does, hence it is one of our best tonics. A lady of my acquaintance says she never starts just right in the spring until she has had a big mess of "greens" of which dandelion is the principal factor.

Another common plant, the yellowwort, affords an excellent tonic, though the whole plant is very bitter. It also serves a double purpose, being used to dye yellow.

The smilax a branch of the greenbrier family, furnishes the wonderful sarsaparilla tonic of our shops. The sarsaparilla is made from the roots of the smilax to which are attached portions of the root stocks. The more acid the taste the higher the price of the drug. This is the wonderful tonic whose virtues are proclaimed from bill boards along the public highways, from store fronts and windows, and from every conceivable place the giant sarsaparilla advertisements reach out the glad hand. This same sarsaparilla was the tonic of our grandfathers in their pioneer days, the cure-all for every ache and pain from "Wabash Shakes" to snake bites and the bottle occupied a place upon the mantel between the family Bible and the Hagerstown Almanac.

Walking

Step into the length and do not turn the knees out so much. See how smoothly you can glide along and take natural deep breaths as you move.

This will give you the feeling that you are being wafted through space instead of laboriously treading on hard earth.

Tip the upper part of your body slightly forward to partly cover your feet. Try to forget your feet and create a desire to attract attention to your head instead.

Strike down with the heel, but let the weight slip to the outer and fore part of the foot, and this will break the jar on the sole of the foot and lessen the strain on the arch.

If you are not a walking enthusiast, begin your regime gradually. Start to cover a mile, then two, and gradually work up to five or six. Any man or woman should be able to walk five miles, and even six or eight, without feeling any bad effects.

The two British sailors had secured tickets to the dog show and were gazing upon a Skye terrier which had so much hair that it looked more like a woolen rug than a dog.

"Which end is 'is' 'ead, Bill?" asked one. "Blowed if I know," was the reply. "But 'ere, I'll stiek a pin in 'im and you look 'wich end barks."—"Ladies Home Journal."

SEEDS at ONE-HALF City Seedsmen Prices!

Let us send you our catalog of seeds—It's different. It tells you facts, and why we can save you money, and give you a guaranteed SQUARE DEAL. Just drop a postal today and see the difference in buying your seeds in country or city. FORREST SEED CO., Box 37, Cortland, N. Y.



EVERYTHING for the GARDEN

In the title of our 1916 catalogue—the most beautiful and complete horticultural publication of the year—really a book of 206 pages, 16 colored plates and over 1000 photo engravings, showing actual results without exaggeration. It is a mine of information of everything in Gardening, either for pleasure or profit, and embodies the results of over sixty-nine years of practical experience. To give this catalogue the largest possible distribution we make the following unusual offer:

Every Empty Envelope Counts as Cash

To every one who will state where this advertisement was seen and who encloses Ten Cents we will mail the catalogue.

And Also Send Free of Charge

Our Famous "HENDERSON" COLLECTION OF SEEDS containing one packet each of Ponderosa Tomato, Big Boston Lettuce, White Tipped Scarlet Radish, Henderson's Invincible Aspers, Mammoth Butterfly Fennel and Spencer and Eckford mixed Sweet Peas, in a coupon envelope, which, when emptied and returned, will be accepted as a 25-cent cash payment on any order amounting to \$1.00 and upward. With the Henderson Collection will be sent complete and detailed cultural directions.

PETER HENDERSON & CO.

35 & 37
CORTLAND ST.
NEW YORK CITY



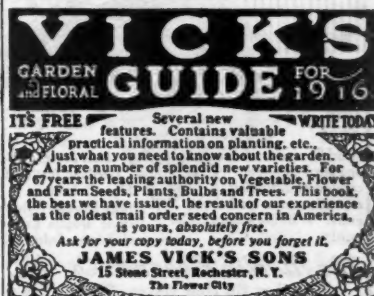
Burpee's Annual

The Fortieth Anniversary Edition of the Leading American Seed Catalog for 1916 is brighter and better than ever before. It offers the greatest novelty in Sweet Peas, the unique "Fiery Cross", and other novelties in Rare Flowers and Choice Vegetables, some of which cannot be had elsewhere. This book of 182 pages tells all about proved and tested

Burpee-Quality Seeds that Grow

For forty years we have aimed to render the best possible seed service. This untiring effort has built for us not only the World's Largest Mail Order Seed Business, but also an enviable reputation for efficient service and undisputed leadership. Each packet contains the result of our forty years extensive operation and intensive investigation. This SILENT SALESMAN is mailed free. A post card will bring it. Write today and kindly mention Green's Fruit Grower.

W. ATLEE BURPEE & CO.
Burpee Buildings Philadelphia



SEEDS at ONE-HALF City Seedsmen Prices!

Let us send you our catalog of seeds—It's different. It tells you facts, and why we can save you money, and give you a guaranteed SQUARE DEAL. Just drop a postal today and see the difference in buying your seeds in country or city. FORREST SEED CO., Box 37, Cortland, N. Y.

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PETER HENDERSON & CO.

35 & 37
CORTLAND ST.
NEW YORK CITY

LOCATE IN VIRGINIA

Locate in the State second in wealth in the South. Delightful climate, no extremes of heat or cold. Average rainfall 45 inches. Most counties have State Agricultural Agents. Land values will increase. Boys' corn clubs. Girls' canning clubs. Good schools, churches, roads, railroad facilities. Nearby markets. General farming, poultry, dairying, fruit and stock. Farms \$15 per acre up. Write for beautiful magazine, official lists, maps and other information, free.

F. H. LAHAUME, Agr'l Agent, Norfolk & Western Ry.
R. & W. Bldg., Room 727 ROANOKE, VA.

SPRAY with the "Ospraymo" Line

automatic and down to the moment. Power is ample. They throw a fine spray, under high pressure, which reaches every part of leaf or tree. You are not troubled with nozzles clogging, the most annoying thing in spraying. Ask any user. You go right along without delays—when the job is done. It's done right. Automatic Brushes with Mechanical Agitators are furnished with Empire King Barrel Pump and Watson-Osraymo Pesticide Sprayers, also with all LEADER Gasoline Engine Machines.

We Make Sprayers for Every Need—

from Bucket and Knapsack Sprayers to the large Power Orchard Rigs. Sold by leading dealers. Ask for Field's "Ospraymo." Write for catalog, formulae and spraying directions.

FIELD FORCE PUMP CO., Dept. B. Elmira, N.Y.

RHODES DOUBLE CUT PRUNING SHEAR

THE only pruner made that cuts from both sides of the limb and does not bruise the bark. Made in all styles and sizes. We pay Express charges on all orders. Write for circular and prices.

Pat'd June 2, 1903.

RHODES MFG. CO.,
534 S. DIVISION AVE., GRAND RAPIDS, MICH.

Write to the Men Who Know

There is a great difference in spray pumps and spraying apparatus. One kind is made by practical orchardists and has been improved through over 20 years of orchard success. Write a letter or postcard to Morrill & Morley Mfg. Co. Find out about

Eclipse Spray Pumps

In use in more successful orchards than all other makes. Used by U.S. Department of Agriculture. Find out what Eclipse offers in more profits for orchards, vineyards or potato fields. Address **Morrill & Morley Mfg. Co., Box 13, Benton Harbor, Mich.** Send for Free Catalogue

We Have a Story for You

The one best all-around gun is the fast-handling, hard-hitting

Marlin

12-Gauge Repeater. It is a wonderful gun for ducks, geese, foxes, for trap shooting and all small game.

The 16 and 20 Gauge Marlin repeaters are built smaller, lighter and trimmer—perfectly designed for the lighter loads.

Hammerless—12-16-20 gauges—have Solid Steel Breech; Solid Top; Side Ejection; Matted Barrel; 6 Quick Shots (5 in 20-ga.); Press-Button Cartridge Release; Automatic Hang-Fire Safety Device; Double Extractors; Take-Down; Trigger and Hammer Safety. See catalog.

With Visible Hammer—12, 16, 20 Gauges, Solid Top, side ejection, matted barrel, take down, etc. \$21.60

The Marlin Firearms Co.
39 Willow St., New Haven, Conn.

Burns Kerosene (Coal Oil)

LIGHTS WHOLE ROOM
BEATS ELECTRIC OR GASOLINE
10 DAYS FREE Charges Prepaid Send No Money

We don't ask you to pay a cent until you have used this wonderful modern light in your own home ten days—we even pay transportation charges. You may return it at our expense if not perfectly satisfied after putting it to every possible test for 10 nights. You can't possibly lose a cent. We want to prove to you that it makes an ordinary oil lamp look like a candle; beats electric, gasoline or acetylene. Lights and is put out like old oil lamp. Tests by Government and 88 leading Universities show it oil lamp. Burns 50 Hours on One Gallon more than twice as much light as the best round wick open flame lamp. No odor, smoke or noise; simple, clean, no pressure, won't explode. Several million people already enjoying this powerful, steady light, nearest to sunlight.

Men Make \$50 to \$300 Per Month
with Rigs or Autos delivering the ALADDIN on our easy trial plan. No previous experience necessary. Practically every farm home and small town home will buy after trying. One farmer who had never sold anything "in his life before" writes: "I sold 67 lamps the first seven days." Another says: "I disposed of 37 lamps out of 31 calls." Thousands who are coming money endorse the Aladdin just as strongly. **NO MONEY REQUIRED.** We furnish capital to reliable men to get started. Ask for our distributor's plan, and learn how to make big money in unoccupied territory. Sample sent for 10 Days' Free Trial. We want one user in each locality to whom we can refer customers. Be the first and get our special introductory offer under which you get your own lamp free for showing it to a few neighbors and sending in their orders. Write quick for 10 DAY ABSOLUTELY FREE TRIAL. Address nearest office.

MANTLE LAMP COMPANY, 325 Aladdin Building
Largest Kerosene (Coal Oil) Mantle Lamp House in the World
CHICAGO NEW YORK CITY PORTLAND, ORE. MONTREAL & WINNIPEG, CANADA

Won GOLD MEDAL at World's Exposition San Francisco

When you write advertisers Please mention Green's Fruit Grower.

Answers to Inquiries

Fertilizer for Strawberries

Green's Fruit Grower:—Being a novice in strawberry growing, having set my first plants this past season, I learned through Green's Fruit Grower in the June, 1915 issue that you consider stable manure about the best of fertilizers for strawberry plants. Should this stable manure be void of sawdust, and composed strictly of horse or cow manure mixed with straw and cornstalk beddings? How deep should this manure be spread? Must it cover the entire surface of the ground and be removed in early spring with a light coating of straw put in place of manure?—Smith McCallister, Ind.

Reply:—A moderate amount of sawdust or shavings with the stable manure is not seriously objectionable but I much prefer straw manure. If the stable manure is placed on the surface of the ground as a mulch during winter, which is the best way of applying it, there is not much danger of applying too much. Each row of plants should be covered thickly enough to partially obstruct the view of the plants. If more stable manure is applied than above, it should be brushed away from the plants at the opening of spring to enable the plants to come up through it. It is seldom that strawberry beds are made too fertile with stable manure. There is no objection to the stable manure covering the entire surface of the ground occupied by strawberry plants.

Caring for Trees in the Fall

Green's Fruit Grower:—I set out some apple and peach trees last spring and they have made two and three feet of growth this season. I feel as though I ought to trim them as soon as the leaves fall, to prevent breaking down with ice.

I have some trees, peach and apple, set in 1912 that have grown three and four feet. I feel like trimming them all before the ice comes. Am I right or wrong? Is it advisable to look for borers twice each year?—Everett B. Sherman, R. I.

Reply:—Yes, it is safe and desirable to prune your trees as soon as the leaves fall. I would not cut out many of the large branches in any one year, but the ends of the branches might be clipped off to prevent the branches from spreading out too wide or too high. Yes, it pays to look after borers in peach trees in June and October.

Food for Peach Trees

Green's Fruit Grower:—I have some peach trees which bore for the first time in 1913, the fruit was large and fine quality, and trees also produced much growth. Last spring I had these trees pruned by a man who I think understands it, and he told me at the time that the buds were dead. I got only a few peaches and they were not as large as before. The growth produced last year is very small and puny. He has just pruned them again and says they must have a liberal amount of potash or they will die. I find I cannot get potash at this time.

Another man says, give them wood ashes, or sulphur and lime.

Will you please advise me stating what to use, and amount.—O. J. Goodspeed, Mass.

Reply:—Peach trees planted in fairly good soil, such as will produce corn or potatoes, will not show weak growth, as you mention, if given cultivation. I doubt if your trees need the potash as mentioned. I cannot think pruning would have done the trees any injury, though it is not necessary to prune trees every year in order to secure fruit and growth.

I am reminded here of digging a trench on the rear of a city lot, the trench marking the place where the line fence should have been. Instead of making a fence, which would have been expensive, I set out peach trees and formed a hedge around the rear of the lot. The trees were not three feet apart. They never received any cultivation, nor manuring, nor pruning, and yet under the unfavorable circumstances these trees bore many crops of delicious fruit, indicating how easy it is for anyone in the city, village or farm, to have plenty of

fruit without much labor or much worry. If your trees do not make healthy growth, it may be they were injured by severe winter. If they do not grow thriftily dig them out and plant other trees in place of them.

Sweet Cherries on Wild Stock

Mr. C. A. Green:—I notice in a recent issue of Green's Fruit Grower you say sweet cherries will not grow on wild stock. I saw it done here very successfully and the cherries borne on this stock are quite superior to the others, as the wild tree is so hardy and strong. I can say very positively it is all right here on this Olympic peninsula. All fruits do well here except peaches and grapes.—Rose E. Littleton, Wash.

C. A. Green's Reply:—There are various kinds of wild or seedling cherries springing up by the roadsides along the fences in the country. Most of these seedlings are of the red or sour cherry type, which as a rule do not make good stocks for sweet cherries, for the reason that they are of slower growth than the sweet cherries. But the graft may take on the wild stock and the tree may live and produce for many years, and yet it is not just the kind of stock that should be selected for sweet cherries.

Sheldon and Bosc Pears.

Mr. Chas. A. Green:—We were quoting the other day something you had said some little time ago about the Sheldon pear. One of our friends at Palisade, Colorado, writes that he thinks a great deal of the Sheldon except that it has the fault of dropping its fruit during Summer.

We write to have an expression from you as to your idea of the cause. Does it act this way in your country? We are of the impression that it is chiefly from lack of proper pollenization, but if you are not too busy would like to have you drop us a line as to your opinion.—H. H. Wilcox, Colo.

Reply:—The Sheldon pear is productive here. The Sheldon is hardly surpassed by any variety, but the Bosc pear is sweeter and might be preferred by some. The Bosc pear is also of finer shape and color. The Sheldon lacks beauty of shape and color. The buyer of choice fruit would not be likely to select the Sheldon pear unless he were familiar with its high quality, but he would select the Bosc on account of its attractiveness. I advise your friends to plant the Bosc. With me it bears almost every year and very abundantly. It is a good keeper. Ours are now picked, Oct. 12, 1915, but it will be nearly a month before they will be ripe enough to eat. They are in good condition now to ship, but have not attained a rich color yet.

Sheldon does not succeed as a dwarf pear, but Bosc succeeds on dwarf stock. The Bosc is considered a fancy fruit and sells for more than the usual price in our best markets. It is not usually a good growing tree in the nursery, hence is held at higher price per tree than other standard pears.

Paint Mixing for Tints

Red and black make brown.
Lake and white make rose.
Red, blue and black make olive.
White and brown make chestnut.
White, blue and lake make purple.
Blue and lead color make pearl.
White and carmine make pink.
Indigo and lampblack make silver gray.
White and lampblack make lead color.
Black and Venetian red make chocolate.
White and green make bright green.
Purple and white make French white.
Light green and black make dark green.
White and green make pea green.
White and emerald green make brilliant green.
Red and yellow make orange.
White and yellow make straw color.
White, blue and black make pearl gray.
White, lake and vermilion make flesh color.
Umber, white and Venetian red make drab.
White, yellow and Venetian red make cream.
Yellow, white and a little Venetian red make buff.

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NUT ENTHUSIASTS CONDEMN BAD NURSERY WAYS

Seedling Trees Sold for Grafted, they Charge

The sale of seedling nut trees as grafted ones was condemned by Dr. J. Russell Smith, president of the Northern Nut Growers' Association, last evening at the close of the association's two-day convention at the Powers Hotel. He said that the practice caused discouragement to many would-be nut enthusiasts. Like the peach tree, a nut tree must be grafted to give sure results, he explained. As the result of his address the association adopted a resolution condemning the sale of seedling nut trees, except when it is specifically understood by the buyer that his purchase is a seedling tree.

Another resolution that was adopted asks that all states which are now free from chestnut blight quarantine against it by requiring that all young trees sent from the outside be sterilized and tagged by the proper authorities. The growers fear that the blight eventually will destroy every chestnut tree in the country. Neither cure nor check for it has yet been found.

Differ in Pecan Possibilities

At the final meeting of the convention last evening, C. A. Reed, nut culturist for the United States Department of Agriculture, pleaded with the members to urge people to send specimens of their nuts to him in Washington so that he might determine their value and productivity. Mr. Reed is not inclined to believe that the Northern pecan ever will be more than a good ornamental tree in this section. There are others of the growers who think it is worth experimenting with, the same as the European filbert.

The visitors were much interested by the grove of seedling walnut trees of Adelbert Thompson. In the Thompson grove of 250 trees, several valuable specimens were noted.

Black Walnuts Nutritious

"We know that black walnuts, which have their meats come free in halves, are being sold," said Dr. Smith, "but we have been unable to trace them back to the trees, as they pass through so many hands before reaching the consumer. These seedling trees will be found and from them will be developed valuable black walnuts, one of the most nutritious of nuts."

Thomas P. Littlepage, of Washington, held his audience with a forceful plea for the cultivation of nut trees. He declared that there should be thousands of acres of English walnuts about Rochester. He urged farmers to cultivate and propagate the trees already upon their farms and make them more valuable by grafting, if necessary. He held that the tree crops were the most valuable in the long run, besides adding to the attractiveness of the farm. Dr. Robert T. Morris, noted surgeon and nut expert of New York, spoke on the hazel nut.

The convention concluded with a business session at which the officers of last year were re-elected. The work of Dr. W. C. Deming, secretary and treasurer, was particularly praised.

Exceptional Tribute Paid to Rochester Tree Planter

As a result of the inspiration from a Rochester man, the Massachusetts Forestry Association, with headquarters at Boston, has caused a survey and planting plan of three hundred and twenty miles of state highway in Massachusetts. This planting plan has just been completed, and the practical work will be taken up at once. The layout is known as "The Shade Tree Circuit," beginning at Boston and passing through Worcester, Springfield, Pittsfield, North Adams, Fitchburg, Athol, and back to Boston.

The man who dropped the germ which started this work is Mr. Henry W. Morgan, and the occasion was the annual meeting of the New York State Forestry Association, held in Rochester during the spring of 1915, at which Mr. Morgan mentioned the improvement of highways leading out of Rochester, which is being promoted by the Tree Planting Committee of the Community Council of the Rochester Chamber of Commerce. (Signed.) Henry R. Francis.

ORCHARD SELLS FOR \$280,000

Tract of 800 Acres of Young Apple Trees Near Tonganoxie Sold to New Yorkers Leavenworth, Kan. Sept. 30.—The Missouri Valley Orchard, containing 800 acres and one of the largest in the west, has been sold by the Minnesota owners to Joseph T. Gilbert, of New York, says Capers Weekly, Topeka, Kans. This orchard is in the southern part of Leavenworth county, five miles north of Tonganoxie. It is an orchard of young apple trees that are just commencing to bear fruit. There is a good crop on the orchard this year.

There is a mortgage for \$80,000 on the property and it is said that the new owner assumed this and paid \$200,000 besides. There was \$206 in internal revenue stamps put on the deed, indicating that \$280,000 was the price paid for the property. This is the largest amount of revenue stamps ever put on a legal document here under the present war tax.

How to Make the Small Farm Pay

It is time for progressive farmers, especially those with small places near town, to get ready for money-making with fruits. These products properly belong in any thorough system of mixed farming, and they can be made to pay \$200 to \$400 an acre net.

Small-fruit growing is peculiarly adapted to those having large families. Small fruits well planted in perfectly straight row and kept well cultivated make a most pleasing picture as well as a profitable crop. A fruit garden connected with any home can be made an attractive object. Many people would be more pleased with such a garden than they would with an art gallery, a church organ, or daily concerts.

From a commercial standpoint, for the beginner, there is no crop that will roll back the corners of a mortgage quicker than the strawberry bed if enough is planted so that the whole family and the neighbors can be employed, especially in picking time. Fit the ground early in April the same as for corn. Mark one way as for corn; then set the plants about 16 inches apart and cultivate as for corn, and hoe whenever there is a sign of weeds or crusty soil. It takes about 7,000 plants per acre when set as directed. When the blossoms appear the first summer pinch them off. Do not try to secure fruit until the second season.

I am a subscriber of your paper, doing me lots of good, like it first rate.—Ernest Hunger, Granville, Ill.

Green's Fruit Grower:—Have been taking the "Fruit Grower" for many years, and prize it very highly, in fact consider it the best authority on fruit and gardening, that I ever read.—E. W. Hilton, Pa.



Our artist in the above cartoon represents Santa Claus placing Green's Fruit Grower in the stocking of the complacent fruit grower. Perhaps you have overlooked making your friend a present of Green's Fruit Grower during the holiday season. If so, it is not too late to make the gift now. Hold on to your old friends. It is easier to lose them by death and otherwise than to find new friends.

SPRAY

with Sherwin-Williams Dry Powdered Insecticides and Fungicides

No water—all poison—easy to ship and handle—no danger of freezing, drying out or spoiling—the latest improved scientific mixtures that give maximum killing power without injury to foliage:

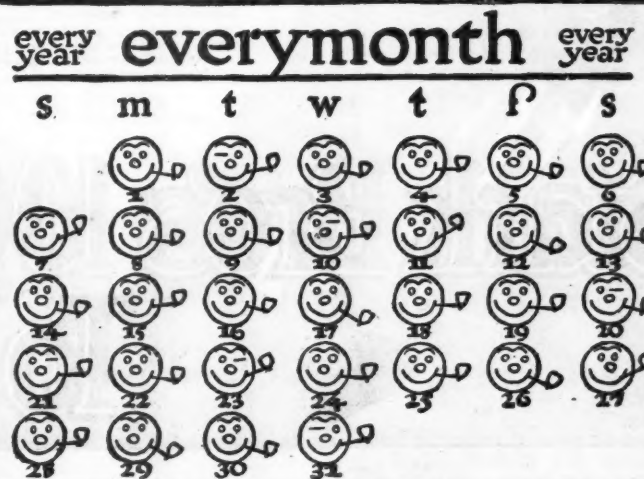
Arsenate of Lead
Fungi-Bordo
Tuber-Tonic
Lime-Sulfur

All in
Dry Powdered
Form

Send for our Spraying Literature

THE SHERWIN-WILLIAMS CO.

Insecticide and Fungicide Makers
675 Canal Road, Cleveland, O.



happy days!

"Tux" is the happy smoke. It just packs the smoker's calendar so plumb full of fragrant delight that a gloomy day can't crowd itself in edgewise. That mild, soothing taste of "Tux" has introduced many a man to the joy of pipe-smoking and a regular unending procession of happy days.

Tuxedo

The Perfect Tobacco for Pipe and Cigarette

By far the most pleasant pipe-smoke in the world is Tuxedo. Think of the supreme satisfaction of being able to smoke your pipe all day, and day after day, without a particle of discomfort! You can do it with Tuxedo—because Tuxedo is made wonderfully mild and absolutely biteless by the original "Tuxedo Process."

That process is what makes Tuxedo different from any other tobacco made. Others have tried to imitate it, but never successfully. Just try Tuxedo for a week and you'll smoke it ever after.

YOU CAN BUY TUXEDO EVERYWHERE

Convenient, glassine wrapped, 5c
moisture-proof pouch

Famous green tin with gold
lettering, curved to fit pocket 10c

In Tin Humidors, 40c and 80c

In Glass Humidors, 50c and 90c

THE AMERICAN TOBACCO COMPANY

LOCATE IN VIRGINIA

Locate in the State second in wealth in the South. Delightful climate, no extremes of heat or cold. Average rainfall 45 inches. Most counties have State Agricultural Agents. Land values will increase. Boys' corn clubs. Girls' canning clubs. Good schools, churches, roads, railroads, facilities. Nearby markets. General farming, poultry, dairying, fruit and stock. Farms \$15 per acre up. Write for beautiful magazine, official lists, maps and other information, from F. H. LeBAUME, Agr'l Agent, Norfolk & Western Ry. ROANOKE, VA. R. & W. Bldg., Room 27

SPRAY with the "Osprymo" Line

automatic and down to the moment. Power is ample. They throw a fine spray, under high pressure, which reaches every part of leaf or tree. You are not troubled with nozzles choking, the most annoying thing in spraying. Ask any user. You go right along without delay—when the pump is done, it's done right. Automatic Brushes with Mechanical Agitators are furnished with Empire King Barrel Pump and Watson-Osprymo Potable Sprayers, also with all LEADER Gasoline Engine Machines.

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Pat'd June 2, 1903.

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Marlin

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With Visible Hammer—12, 16, 20 Gauge; Solid Top, side ejection, matted barrel, take down, etc. \$21.60

The Marlin Firearms Co.
39 Willow St., New Haven, Conn.

Get This Gun Book! Send 3c postcard for 140 page catalog of Marlin repeating rifles and shotguns. It helps select right gun!

Burns Kerosene (Coal Oil)

LIGHTS WHOLE ROOM

BEATS ELECTRIC OR GASOLINE

10 DAYS FREE

Charges Prepaid Send No Money

We don't ask you to pay a cent until you have used this wonderful modern light in your own home ten days—we even pay transportation charges. You may return it at our expense if not perfectly satisfied after putting it to every possible test for 10 nights. You can't possibly lose a cent. We want to prove to you that it makes an ordinary oil lamp look like a candle; beats electric, gasoline or acetylene. Lights and is put out like old oil lamp. Tests by Government and 33 leading Universities show it common coal oil, and gives more than twice as much light as the best round wick open flame kerosene. No odor, smoke or noise; simple, clean, no pressure, won't explode. Several million people already enjoying this powerful, steady light, nearest to sunlight.

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When you write advertisers Please mention Green's Fruit Grower.

Answers to Inquiries

Fertilizer for Strawberries

Green's Fruit Grower:—Being a novice in strawberry growing, having set my first plants this past season, I learned through Green's Fruit Grower in the June, 1915 issue that you consider stable manure about the best of fertilizers for strawberry plants. Should this stable manure be void of sawdust, and composed strictly of horse or cow manure mixed with straw and cornstalk beddings? How deep should this manure be spread? Must it cover the entire surface of the ground and be removed in early spring with a light coating of straw put in place of manure?—Smith McCallister, Ind.

Reply:—A moderate amount of sawdust or shavings with the stable manure is not seriously objectionable but I much prefer strawy manure. If the stable manure is placed on the surface of the ground as a mulch during winter, which is the best way of applying it, there is not much danger of applying too much. Each row of plants should be covered thickly enough to partially obstruct the view of the plants. If more stable manure is applied than above, it should be brushed away from the plants at the opening of spring to enable the plants to come up through it. It is seldom that strawberry beds are made too fertile with stable manure. There is no objection to the stable manure covering the entire surface of the ground occupied by strawberry plants.

Caring for Trees in the Fall

Green's Fruit Grower:—I set out some apple and peach trees last spring and they have made two and three feet of growth this season. I feel as though I ought to trim them as soon as the leaves fall, to prevent breaking down with ice.

I have some trees, peach and apple, set in 1912 that have grown three and four feet. I feel like trimming them all before the ice comes. Am I right or wrong? Is it advisable to look for borers twice each year?—Everett B. Sherman, R. I.

Reply:—Yes, it is safe and desirable to prune your trees as soon as the leaves fall. I would not cut out many of the large branches in any one year, but the ends of the branches might be clipped off to prevent the branches from spreading out too wide or too high. Yes, it pays to look after borers in peach trees in June and October.

Food for Peach Trees

Green's Fruit Grower:—I have some peach trees which bore for the first time in 1913, the fruit was large and fine quality and trees also produced much growth. Last spring I had these trees pruned by a man who I think understands it, and he told me at the time that the buds were dead. I got only a few peaches and they were not as large as before. The growth produced last year is very small and puny. He has just pruned them again and says they must have a liberal amount of potash or they will die. I find I cannot get potash at this time.

Another man says, give them wood ashes, or sulphur and lime.

Will you please advise me stating what to use, and amount.—O. J. Goodspeed, Mass.

Reply:—Peach trees planted in fairly good soil, such as will produce corn or potatoes, will not show weak growth, as you mention, if given cultivation. I doubt if your trees need the potash as mentioned. I cannot think pruning would have done the trees any injury, though it is not necessary to prune trees every year in order to secure fruit and growth.

I am reminded here of digging a trench on the rear of a city lot, the trench marking the place where the line fence should have been. Instead of making a fence, which would have been expensive, I set out peach trees and formed a hedge around the rear of the lot. The trees were not three feet apart. They never received any cultivation, nor manuring, nor pruning, and yet under the unfavorable circumstances these trees bore many crops of delicious fruit, indicating how easy it is for anyone in the city, village or farm, to have plenty of

fruit without much labor or much worry. If your trees do not make healthy growth, it may be they were injured by severe winter. If they do not grow thriftily dig them out and plant other trees in place of them.

Sweet Cherries on Wild Stock

Mr. C. A. Green:—I notice in a recent issue of Green's Fruit Grower you say sweet cherries will not grow on wild stock. I saw it done here very successfully and the cherries borne on this stock are quite superior to the others, as the wild tree is so hardy and strong. I can say very positively it is all right here on this Olympic peninsula. All fruits do well here except peaches and grapes.—Rose E. Littleton, Wash.

C. A. Green's Reply:—There are various kinds of wild or seedling cherries springing up by the roadsides along the fences in the country. Most of these seedlings are of the red or sour cherry type, which as a rule do not make good stocks for sweet cherries, for the reason that they are of slower growth than the sweet cherries. But the graft may take on the wild stock and the tree may live and produce for many years, and yet it is not just the kind of stock that should be selected for sweet cherries.

Sheldon and Bosc Pears.

Mr. Chas. A. Green:—We were quoting the other day something you had said some little time ago about the Sheldon pear. One of our friends at Palisade, Colorado, writes that he thinks a great deal of the Sheldon except that it has the fault of dropping its fruit during Summer.

We write to have an expression from you as to your idea of the cause. Does it act this way in your country? We are of the impression that it is chiefly from lack of proper pollenization, but if you are not too busy would like to have you drop us a line as to your opinion.—H. H. Wilcox, Colo.

Reply:—The Sheldon pear is productive here. The Sheldon is hardly surpassed by any variety, but the Bosc pear is sweeter and might be preferred by some. The Bosc pear is also of finer shape and color. The Sheldon lacks beauty of shape and color. The buyer of choice fruit would not be likely to select the Sheldon pear unless he were familiar with its high quality, but he would select the Bosc on account of its attractiveness. I advise your friends to plant the Bosc. With me it bears almost every year and very abundantly. It is a good keeper. Ours are now picked, Oct. 12, 1915, but it will be nearly a month before they will be ripe enough to eat. They are in good condition now to ship, but have not attained a rich color yet.

Sheldon does not succeed as a dwarf pear, but Bosc succeeds on dwarf stock. The Bosc is considered a fancy fruit and sells for more than the usual price in our best markets. It is not usually a good growing tree in the nursery, hence is held at higher price per tree than other standard pears.

Paint Mixing for Tints

Red and black make brown.
Lake and white make rose.
Red, blue and black make olive.
White and brown make chestnut.
White, blue and lake make purple.
Blue and lead color make pearl.
White and carmine make pink.
Indigo and lampblack make silver gray.
White and lampblack make lead color.
Black and Venetian red make chocolate.
White and green make bright green.
Purple and white make French white.
Light green and black make dark green.
White and green make pea green.
White and emerald green make brilliant green.
Red and yellow make orange.
White and yellow make straw color.
White, blue and black make pearl gray.
White, lake and vermilion make flesh color.
Umber, white and Venetian red make drab.
White, yellow and Venetian red make cream.
Yellow, white and a little Venetian red make buff.

JANUARY

NUT ENT

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NUT ENTHUSIASTS CONDEMN BAD NURSERY WAYS

Seedling Trees Sold for Grafted, they Charge

The sale of seedling nut trees as grafted ones was condemned by Dr. J. Russell Smith, president of the Northern Nut Growers' Association, last evening at the close of the association's two-day convention at the Powers Hotel. He said that the practice caused discouragement to many would-be nut enthusiasts. Like the peach tree, a nut tree must be grafted to give sure results, he explained. As the result of his address the association adopted a resolution condemning the sale of seedling nut trees, except when it is specifically understood by the buyer that his purchase is a seedling tree.

Another resolution that was adopted asks that all states which are now free from chestnut blight quarantine against it by requiring that all young trees sent from the outside be sterilized and tagged by the proper authorities. The growers fear that the blight eventually will destroy every chestnut tree in the country. Neither cure nor check for it has yet been found.

Differ in Pecan Possibilities

At the final meeting of the convention last evening, C. A. Reed, nut culturist for the United States Department of Agriculture, pleaded with the members to urge people to send specimens of their nuts to him in Washington so that he might determine their value and productivity. Mr. Reed is not inclined to believe that the Northern pecan ever will be more than a good ornamental tree in this section. There are others of the growers who think it is worth experimenting with, the same as the European filbert.

The visitors were much interested by the grove of seedling walnut trees of Adelbert Thompson. In the Thompson grove of 250 trees, several valuable specimens were noted.

Black Walnuts Nutritious

"We know that black walnuts, which have their meats come free in halves, are being sold," said Dr. Smith, "but we have been unable to trace them back to the trees, as they pass through so many hands before reaching the consumer. These seedling trees will be found and from them will be developed valuable black walnuts, one of the most nutritious of nuts."

Thomas P. Littlepage, of Washington, held his audience with a forceful plea for the cultivation of nut trees. He declared that there should be thousands of acres of English walnuts about Rochester. He urged farmers to cultivate and propagate the trees already upon their farms and make them more valuable by grafting, if necessary. He held that the tree crops were the most valuable in the long run, besides adding to the attractiveness of the farm. Dr. Robert T. Morris, noted surgeon and nut expert of New York, spoke on the hazel nut.

The convention concluded with a business session at which the officers of last year were re-elected. The work of Dr. W. C. Deming, secretary and treasurer, was particularly praised.

Exceptional Tribute Paid to Rochester Tree Planter

As a result of the inspiration from a Rochester man, the Massachusetts Forestry Association, with headquarters at Boston, has caused a survey and planting plan of three hundred and twenty miles of state highway in Massachusetts. This planting plan has just been completed, and the practical work will be taken up at once. The layout is known as "The Shade Tree Circuit," beginning at Boston and passing through Worcester, Springfield, Pittsfield, North Adams, Fitchburg, Athol, and back to Boston.

The man who dropped the germ which started this work is Mr. Henry W. Morgan, and the occasion was the annual meeting of the New York State Forestry Association, held in Rochester during the spring of 1915, at which Mr. Morgan mentioned the improvement of highways leading out of Rochester, which is being promoted by the Tree Planting Committee of the Community Council of the Rochester Chamber of Commerce. (Signed.) Henry R. Francis.

ORCHARD SELLS FOR \$280,000

Tract of 800 Acres of Young Apple Trees Near Tonganoxie Sold to New Yorkers Leavenworth, Kan. Sept. 30.—The Missouri Valley Orchard, containing 800 acres and one of the largest in the west, has been sold by the Minnesota owners to Joseph T. Gilbert, of New York, says *Capers Weekly*, Topeka, Kans. This orchard is in the southern part of Leavenworth county, five miles north of Tonganoxie. It is an orchard of young apple trees that are just commencing to bear fruit. There is a good crop on the orchard this year.

There is a mortgage for \$80,000 on the property and it is said that the new owner assumed this and paid \$200,000 besides. There was \$206 in internal revenue stamps put on the deed, indicating that \$280,000 was the price paid for the property. This is the largest amount of revenue stamps ever put on a legal document here under the present war tax.

How to Make the Small Farm Pay

It is time for progressive farmers, especially those with small places near town, to get ready for money-making with fruits. These products properly belong in any thorough system of mixed farming, and they can be made to pay \$200 to \$400 an acre net.

Small-fruit growing is peculiarly adapted to those having large families. Small fruits well planted in perfectly straight row and kept well cultivated make a most pleasing picture as well as a profitable crop. A fruit garden connected with any home can be made an attractive object. Many people would be more pleased with such a garden than they would with an art gallery, a church organ, or daily concerts.

From a commercial standpoint, for the beginner, there is no crop that will roll back the corners of a mortgage quicker than the strawberry bed if enough is planted so that the whole family and the neighbors can be employed, especially in picking time. Fit the ground early in April the same as for corn. Mark one way as for corn; then set the plants about 16 inches apart and cultivate as for corn, and hoe whenever there is a sign of weeds or crusty soil. It takes about 7,000 plants per acre when set as directed. When the blossoms appear the first summer pinch them off. Do not try to secure fruit until the second season.

I am a subscriber of your paper, doing me lots of good, like it first rate.—Ernest Hunger, Granville, Ill.

Green's Fruit Grower—Have been taking the "Fruit Grower" for many years, and prize it very highly, in fact consider it the best authority on fruit and gardening, that I ever read.—E. W. Hilton, Pa.



Our artist in the above cartoon represents Santa Claus placing Green's Fruit Grower in the stocking of the complacent fruit grower. Perhaps you have overlooked making your friend a present of Green's Fruit Grower during the holiday season. If so, it is not too late to make the gift now. Hold on to your old friends. It is easier to lose them by death and otherwise than to find new friends.

SPRAY

with Sherwin-Williams Dry Powdered Insecticides and Fungicides

No water—all poison—easy to ship and handle—no danger of freezing, drying out or spoiling—the latest improved scientific mixtures that give maximum killing power without injury to foliage:

Arsenate of Lead
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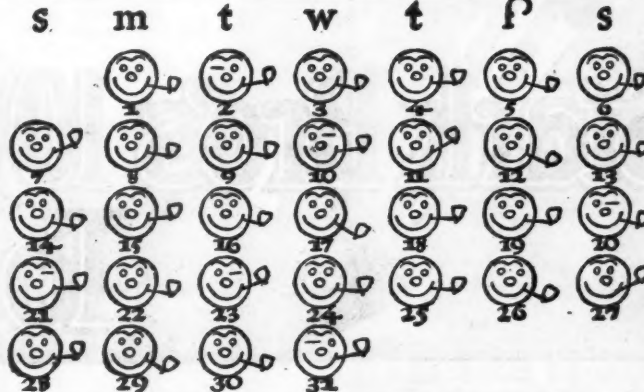
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Insecticide and Fungicide Makers

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every year **everymonth** every year



happy days!

"Tux" is the happy smoke. It just packs the smoker's calendar so plumb full of fragrant delight that a gloomy day can't crowd itself in edgewise. That mild, soothing taste of "Tux" has introduced many a man to the joy of pipe-smoking and a regular unending procession of happy days.

Tuxedo

The Perfect Tobacco for Pipe and Cigarette

By far the most pleasant pipe-smoke in the world is Tuxedo. Think of the supreme satisfaction of being able to smoke your pipe all day, and day after day, without a particle of discomfort! You can do it with Tuxedo—because Tuxedo is made wonderfully mild and absolutely biteless by the original "Tuxedo Process."

That process is what makes Tuxedo different from any other tobacco made. Others have tried to imitate it, but never successfully. Just try Tuxedo for a week and you'll smoke it ever after.

YOU CAN BUY TUXEDO EVERYWHERE

Convenient, glassine wrapped, moisture-proof pouch . . . 5c

Famous green tin with gold lettering, curved to fit pocket 10c

In Tin Humidors, 40c and 80c

In Glass Humidors, 50c and 90c

THE AMERICAN TOBACCO COMPANY

The Apple of His Eye

The favored fruit of America. The apple to which the people of state after state annually award the Blue Ribbon. The apple for which the commission men, the retailers and consumers eagerly pay prices that apples never before brought—prices two and three times higher than they will pay for other apples.

"Stark Delicious"

—declared to be "The Finest Apple in All the World" by Luther Burbank, "The Wizard of Horticulture." "Stark Delicious" is an apple in a class alone. A great, big, flashing red apple of exquisite flavor—with a spiciness unknown in any other variety. Crisp, fine-grained, juice-laden flesh. "Simply delicious" in fact as well as name.

And it is as profitable as it is good. The sturdy, genuine "Stark Delicious" trees, propagated in our century-old nurseries, produce enormous crops for owners of both home and commercial orchards everywhere.

Get a copy of our Centennial Fruit Book—our 100th Birthday Gift to you—and learn why this great apple and genuine "Stark Delicious" trees are prized by men like Col. G. B. Brackett, U. S. Pomologist; Prof. H. E. Van Deman, ex-U. S. Pomologist; Col. R. H. Dalton (who made \$20,000 from his 1915 apple crop); Benj. Douglass, one of Indiana's leading apple growers; Thos. F. Rigg, owner of Iowa Experiment grounds, and hundreds and hundreds more.

Get this book to get the benefit of the experience of these and scores of more of America's successful fruit growers. It will be sent as

Photographed Actual Size
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13 Oz.



This
Big
100th-

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pictures and
describes the
Best Fruits of
All Varieties—
Apples, Peaches,
Pears, Plums, Cherries,
Apricots, Quinces,
Grapes, Berries, Currants,
Asparagus, Rhubarb,
Nuts, Roses, and Orna-
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Stark Bro's 100th Birthday Gift To You

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FREE

Send us your name and address on the coupon or on a postcard and let us send you FREE this Great, Big, Beautiful, 12 x 9 inch, 4-color Centennial Book—just off the press.



This great book worthily celebrates our One-Hundredth Anniversary. It is a magnificent specimen of the printing art, and a bird's-eye view of fruit developments for the past hundred years. Filled from cover to cover with life-size, natural-color photographs of leading fruits—actual photographs of orchards and fruit trees that have yielded and are yielding their owners fortunes. Every page bristling with profit-making facts and hints and pointers that will help you and every owner of either a little or a big orchard.

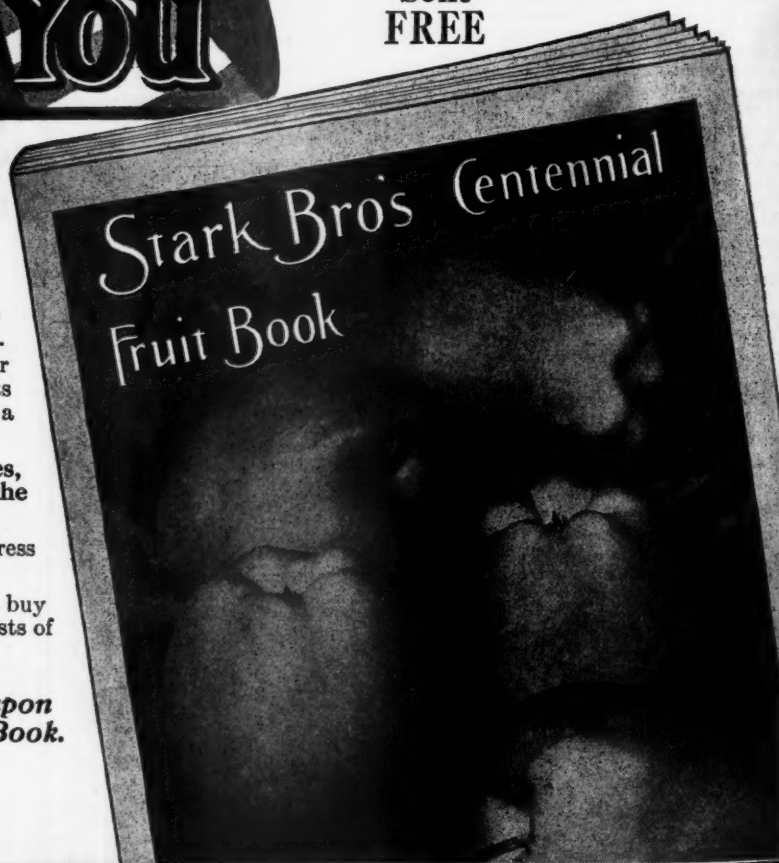
Here you will find the Apples, Peaches, Pears, Plums, Cherries, Berries—the big and little fruits of all varieties that will yield the biggest crops and the most money.

You will learn why Louisiana, Mo., has been the center of fruit progress for one hundred years.

Write for this superb book now whether or not you are ready to buy trees. Stark Bro's and each of their men, the fruit specialists of America, want you to have a free copy.

Your Name and Address On This Coupon
Or a Postcard Brings You This Big Book.
Write Today.

Stark Bro's, Box 1401, Louisiana, Mo.
Send me at once free of charge and postage prepaid, a copy of your big
1916 Centennial Fruit Book, showing all leading fruits life size and
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I may need about..... trees
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A Mother's Fidelity

A Sixteenth Century Story

Written for Green's Fruit Grower by LOIS R. FAY

On an uncertain date about the year 1500 a boy, Niccolo by name, was born in Brescia—a small town in the north of Italy—to Michele Fontana and his wife, the father a postal messenger between Brescia and the surrounding towns. Dying six years later, the father left this boy's mother a widow and Niccolo and a brother and a sister almost penniless orphans. Niccolo's childhood was accordingly passed under stress of dire poverty, and at the age of twelve, a cruel misfortune added to the burdened mother's trials.

During the sack of Brescia in 1512 he was terribly mutilated by infuriated soldiers in a Cathedral where he had vainly sought refuge. His skull was laid open in three places, his palate cloven and both jaw bones broken.

"Yet he recovered," records his biographer, "with no further assistance than his mother's patient care."

This Big 100th-Book es and es the uits of ties—ches, berries, nces, urrants barb, Orna- Hed-

Though this mother's name is lost in the fame of her son, mention of her care is as a golden thread, beautifying the somber web of history. The luster of such a deed as was accomplished by this patient mother captivates attention and admiration. A modern surgeon would be proud to have his skill instrumental in such a recovery as this seems to have been, especially proud to have the recovery followed by such a career as was that of this boy whose education is shrouded in mystery, but whose abilities excited wonder from friend and opponent during his lifetime.

One result of his injury which long troubled him, a stammering speech, gave rise to the name "Tartaglia" which he adopted himself as a nickname, and he is still known as Niccolo Tartaglia, instead of Niccolo Fontana, his father's name.

But neither poverty, infirmity nor illiteracy quenched the ingenious, keen-witted youth. Tartaglia tells in his own writings how he had no school master in the literal sense of the word except in the barest rudiments of reading and writing. Yet it is observed he possessed diligence, and at the age of twenty-one he was found at Verona, Italy, an esteemed teacher of mathematics.

Whether his mother was living to see the fruit of her labors as her son began to excel his fellowmen we know not. History is partial in cases like this. Such lives of hardship as this woman's make history, but history often is silent in the details concerning them. We know how long her son lived and what deeds he did through the instrumentality of her care; but particulars of how long she lived in kind but unfamed devotion, history was remiss in chronicling leaving as a monument to her memory a brief mention of her healing the wounds inflicted on the innocent by demons of war.

After fourteen years at Verona he moved to Venice where he lived most of the rest of his life, not traveling much but extending his mathematical abilities and conducting his home as a resort of learned men of all grades and nations.

The first episode at Venice which won him more attention was an intellectual duel with Del Fiore, another mathematician who relied on an undivulged secret of still another mathematician to solve a particular problem in cubic equations.

Tartaglia had a recently invented solution of his own which he employed, and he came out of the contest triumphant for his ability and integrity, though the rules by which he attained creditable results were not made public at the time.

Possessed of a certain amount of sagacity, he refrained from publishing his new rules, couching his method in a mysterious manner for two reasons: first, to gain leisure in which to perfect his rules before giving them to the public; also as a highly effective weapon with which to defend himself in contests with mathematical opponents.

Whatever of unworthy emulation was intermingled with sagacity in his procedure may be excused in him as a weakness incident to his previous injury; but when we read how through it came the great quarrel that marred his happiness, an object lesson in the control of emulous pride is furnished.

In 1539 a jealous opponent, a Milanese physician, Cardan by name, enticed Tartaglia to Milan and by unremitting solicitations and an oath of secrecy secured from him the coveted verses in which the discovery was enshrined.

When the physician's oath of secrecy was shortly broken, a bitter and lifelong quarrel followed. This quarrel came to notice in a public disputation nine years later at Milan, which the unprincipled Cardan shrank from attending, but which convinced fellowmen of the integrity of Tartaglia and the duplicity of the enemy who was so unchristian and inhumanly jealous as to prey upon a man whose only vulnerable point was physical infirmity.

Throughout this great trial and in all his dealings Tartaglia's honesty, uprightness and morality of life remained unimpeached. As a writer his works have helped to initiate the rapid progress of mathematics. They include treatises, concerning arithmetic, geometry, mensuration, algebra, specific gravity, setting forth also a method for raising sunken ships and describing the diving bell, then little known in western Europe.

The sufferings he had received at the hands of participants in war led him to regard the promotion of arts of destruction a crime; but his mathematical ability, the troublous times in which he lived, and the necessitous inquiries sent him by people in all walks of life under the scourge of war, led him to make treatises on artillery and fortifications for defence.

Tartaglia died at Venice December 13, 1557. Persons of a non-mathematical turn of mind may not appreciate that his work in algebra and geometry was of much value to the human race. Leaving the usefulness of these sciences for those employing them to demonstrate, it is sufficient to say that there are few persons of intelligent perception who cannot appreciate the value of the work of women like Tartaglia's mother, whose constructive work is of greater value than that made possible by the sciences of higher mathematics.

From a Tree Doctor

Mr. C. A. Green:—Your excellent journal is of much interest to us with garden and fruit on only our two city lots, and several neighbors observing my practice have come to think they must have me care for their trees, which my occupation sometimes permits. I also practice tree surgery to some extent, yet I did not see cause to blush at reading in your last an article headed "tree butcher." There has been some reckless work in that line about here. Some of which I have been asked to correct. We know that trees which always have proper care have little need of the surgeon yet I have practiced which might appeal to you. In treating a cavity in the fork of trees where many defects occur from improper care where headed back (I refer here chiefly to shade trees) I am not satisfied with cement or metal plate for excluding moisture and germs as they separate from the wood. So I am using an asphalt mixture similar to that used in paving. First, of course clearing and disinfecting the cavity. I have a heating device similar to that used by tinner on which I have a kettle of the mixture and solder tools below on the fire. After packing the cavity, smooth it with the tools so that it adheres to the wood and drains perfectly. If you have any objection to this I hope you will mention it. I had a few trees of you last year, one Montmorency which died though I gave it more care than the others which are doing finely. Will say, could not see that the Montmorency was faulty when received, and kept it well mulched with lawn mowings. A friend and myself have some large trees we do not want to dispose of but which are not desirable fruit so am top working them, have done some budding on them which seems satisfactory. Friend has large plum valued for shade which he desires top worked and thought would like to read an article on budding in the Fruit Grower as we can hardly expect you to give a personal letter. Believing I have consumed too much of your valuable time, will close.—J. Dutton, Ohio.

Notes Here and There

Some men are born great, and then they miss the pleasure of telling how they did it.

The things that don't concern them are the very things that give some people the most concern.

When girls are not busy picking husbands they are busy picking quarrels with those who are.

Some people seem to get a lot of enjoyment in keeping others from enjoying themselves.

If you want to be sure of an audience with a woman, either flatter her or abuse her friends.

Hope is an airship. Disappointment is a parachute that lets us down easy.

You don't have to take a course in physical culture to carry other people's burdens.

NEW YORK GREAT FARMING STATE; LEADS IN SEVERAL PRODUCTS

During 1915 Raised More Hay, More Buckwheat, more Apples, Than Any Other State in the Union, and More Potatoes Than Any Other Eastern State.

- Q. What State in the Union raises the most hay? A. New York.
Q. What State raises the most buckwheat? A. New York.
Q. What State raises the most apples? A. New York.
Q. What State in the East raises the most potatoes? A. New York.
Q. What is the second State in the Union in the production of pears? A. New York.

Automobile Dont's

- Don't fail to use a pressure gauge, as it will save rim cutting.
- Don't fail to keep the rim free from rust at all times.
- Don't forget when storing the car away to remove, clean and revarnish rims.
- Don't attempt to revarnish rims, though, until every trace of rust is removed, and also see that the rim is neither dented nor rough.
- Don't ride on car tracks or in deep ruts, as it wears rims very rapidly and causes them to become rough or ragged.
- Don't fail, after coming in from a long journey, particularly if the weather has been rainy or slushy, to sponge the rims clean and then wipe dry, as this will do much to prevent rust.
- Don't use anything but black varnish. It is expensive, but will prove the cheapest in the long run.
- Don't use a file to smooth roughened shoes. Use coarse emery paper and then finish off with fine emery paper.
- Don't neglect to inspect the rims at frequent intervals.

This Country Wide Service Back of Hardie Sprayers

Branch houses at Brockport, N. Y., Bentonville, Ark., Hagerstown, Md., Kansas City, Mo., and San Francisco, Cal., a branch factory at Portland, Ore. and over 800 selling agents located in all the fruit-growing sections of the country—every one carrying supplies and repairs—this is the organization back of every Hardie Sprayer.

Think what this means when every spraying minute counts, when delays mean the loss of your crop—your profits. From these Hardie selling agents, who are required to keep a supply of parts you can get repairs, if necessary, without any annoying or costly delays.

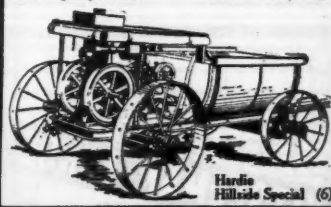
Thru this great organization we have been able to keep in touch with spraying conditions, to know exactly the peculiar spraying conditions of the different fruit-growing sections—and Hardie Sprayers are built to meet these conditions. Fifteen years devoted exclusively to the manufacture of spraying machines has shown us how to build Sprayers that stand up under hard service and under all sorts of conditions. You cannot get more in a Sprayer than you will get in a Hardie.

HARDIE SPRAYERS FOR EVERY SPRAYING NEED

Write for a catalog—go to any Hardie selling agent and look at Hardie Sprayers—note their simplicity. Tell us the size of your orchard and we will help you choose the Sprayer best fitted to your needs. Write us today.

The Hardie Mfg. Co., 13 Hardie Bldg., Hudson, Mich.

Branches at: Portland, Ore., Kansas City, Mo., Brockport, N. Y., San Francisco, Cal., Hagerstown, Md., Bentonville, Ark.



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Weights 6 oz. to foot

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FLEXIBLE

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CAN'T KINK, TWIST, BURST, COLLAPSE OR CHAFE

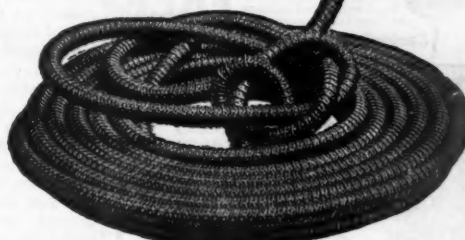
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Finest Early Radish in Existence. Ready to eat in 14 days. To introduce our Northern Grown "Sure Crop" Live Seeds we will mail you Big Package "Condon's New Lightning Radish" and our Mammoth Illustrated 1916 Garden and Farm Guide. Send name and address on postal today sure.
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We want every person who uses seeds to see our 1916 Seed Book and try this Giant Climbing Tomato. We will send a sample packet in a 10c open envelope for trial, with Seed Book Free. This Book describes the best Vegetables, Fruits and Flowers. Send your address today.
MILLS SEED HOUSE, Dept. 15, Rose Hill, New York

Fencing the Orchard

Written for Green's Fruit Grower By J. S. Underwood, Illinois.

Every orchard should have a good, up-to-date fence around it. Good fencing doesn't cost much considering its value, and if properly put up it will last indefinitely. The trees are protected and the orchard presents a more pleasing appearance than when not thus enclosed. I have my orchard fenced with a good woven-wire fence, which I consider superior to any other fencing material.

In building a woven-wire fence it is very important that the posts be set as firmly in the ground as possible. On my farm the end posts of the fences are about twelve inches in diameter and set four and one-half feet in the ground. I have found that the bigger the post and the deeper it is set the cheaper it is in the long run. These posts are well anchored with a block of wood two by six by 24 inches at the foot of the post. Small stones are well tamped into the hole around each post. In my next setting of end posts I am going to put plenty of cement in the hole around the posts, as this gives much better results than any other material. The post will be protected from decay and it is sure to remain firm at all times.

The usual practice of mortising the end and second posts for the brace is not a good one, as the mortise both weakens and provides a place to hold moisture and start

is still frozen go out on a sunny day and put on the woven-wire and every post will be as firm as it is possible to make them. The stretchers can be put on anywhere without bracing, and the fence drawn as tight as desired without loosening the posts. The wire can be stretched very much tighter and in one-fourth the time it would take if the posts were set in the spring in loose earth. One winter I set nearly a mile of posts and put wire on the next spring. I did not, however, set enough posts and had to set about forty more. It took me as long to get that forty rods of fence up tight on the posts set in the spring as it did to make the mile where the posts were set in the winter, and then I did not have as good a job with all my painstaking.

In putting up a woven-wire fence my plan is to begin at the opposite end of the fence from which I wish to use the stretchers and unroll the fence a short distance, then bring the end of the wires around the post and fasten with the loops, then finish unrolling the fence with the bottom wire towards the post. I use a pair of double stretchers, or fence jacks, as we call them. When ready to stretch the fence one man uses the stretchers, while another works along the line, seeing that everything is all right. I never do this work in a hurry, but give the wire time to get all the extra



The casual observer would not notice that the orchard in the above photograph is fenced in by a wire fence. Examine it closely and you will see the posts along the roadside and the wire fencing attached thereto. One of the advantages of wire fencing is that it does not mar the landscape like other fencing. Then it does not cause the accumulation of snow banks.

decay. The surface of the posts should be merely smoothed off and then the brace firmly spiked on. I like No. 9 wire to use for the brace, firmly spiking it to the posts and passing once around both top and bottom and then twist until a taut cable is secured.

The second post need not be as large as the first, or end post, but it should be larger than the other intermediate posts and set rather deep also. My method of bracing is a good one, although there are a number of other good ways and whatever method is chosen let the work be done well, as this is one of the most important features in erecting a satisfactory wire fence.

In woven-wire fences the work of the intermediate posts is not very heavy. The line post is merely required to bear the weight of the wire and withstand any strain which may be placed upon it. However, I want my intermediate posts to be firmly set, each being placed to a depth of not less than two and a half feet in the ground and each measuring about six inches in diameter. Customs vary as to the distance apart of placing posts. Some put them 20 feet, while others put them farther apart than that, but personally I prefer them placed just one rod apart. The fence will then be strong and stand up well, provided the wire is properly put on.

I prefer to set the posts in the winter, letting them freeze in the ground, then next spring while the ground

slack tightened out. It always pays to make the fence tight when putting it up, and if it is the right kind of a fence it will always be tight, provided the posts do not loosen. After fastening the wire around the post where the stretchers are, I staple the fence to the line posts with galvanized staples, being careful not to drive them up tight, as I want the strain to be left on the end posts. Every fruit grower who spends money for good fencing to enclose his orchards and fruit plantations will find that it is a wise investment.

To Minimize Unreliability in Repairs to Trees

The U. S. Department of Agriculture is suggesting a plan that may help put commercial tree surgery on a better basis. Owners are urged to have a definite written contract with the tree surgeons they employ, and the following is suggested as a model for such contract.

- (1) No climbing spurs shall be used on any part of a tree.
- (2) The shoes worn by the workmen shall have soft rubber bottoms.
- (3) Ordinary commercial orange shellac shall be applied to cover the cut edges of sapwood and cambium (which is the soft formative tissue from which the new wood and bark originate) within five minutes after the final trimming cut is made.
- (4) All cut or shellaced surfaces shall be

painted with commercial creosote, followed by Chick coal tar.

(5) All diseased, rotten, discolored, water-soaked, or insect-eaten wood shall be removed in cavity work and the cavity inspected by the owner or his agent before it is filled.

(6) Only a good grade of Portland cement and clean, sharp sand in no weaker mixture than 1 to 3 shall be used to fill cavities.

(7) The contractor shall repair free of expense any defects that may appear in the work within one year.

If the owner prefers to have a cavity filled with asphalt or other material instead of cement, the contract can be altered accordingly. If it is desirable to substitute some other preparation for shellac, this can be done. Similarly, under certain conditions, various other modifications may be made, although alterations in Nos. 1, 2, 5, and 7 should be made with caution. It may so happen that if all insect-eaten wood is removed, the tree may be dangerously weakened; under such conditions the diseased matter can be removed to solid wood and the cavity fumigated. Other suggestions along these lines may be found in the pamphlet issued by the Department.

Apple Production and Prices

According to the best authority available, the apple crop in the United States for 1915 promises to be about 22,500,000 barrels, says The Niagara County N. Y. Farm Bureau News. This will be the lightest crop in several years, the 1910 crop being the next lightest, when about 24,000,000 barrels were produced. In comparison, the 1914 crop was about 45,000,000 barrels and the 1913 crop about 30,000,000 barrels. There is every reason for the apple growers to demand good prices this fall.

The above refers to the commercial crop that will be marketed in closed packages, and should not be confounded with the recent estimate of the United States Department of Agriculture, which is understood to refer to the total production of apples, including those used for cider and shipped to the market in bulk.

While we look forward to a good strong apple market, we do not believe it policy for the ordinary grower to store apples when he can secure three dollars or better for "A" and "B" grade fruit. Apples from storage should ordinarily bring a dollar more per barrel, to make it an object for the grower to pay the storage charge, stand the shrinkage, lose the use of his money for several months, and run the risk of the market.

Grease That Plow!

The best tools go soon enough. Ounces of grease save dollars in repairs. The seeds of rust and decay bring a harvest of loss to the farmer.

If machinery displaces men and horses it demands more care than ever.

Keeping the polish on a moldboard may be better than shining in society.

Simplicity, reliability, durability, and accessibility should be sought when you buy tools.

At the University farm we get good results from a mixture of whitening and hard oil. First make a thick paste then thin it by adding more oil. Apply to the moldboard with a brush and rub off with a gunny sack just before using the implements in the spring.—M. A. R. Kelley, University of Missouri, College of Agriculture.

CHEER

Written for Green's Fruit Grower By B. F. M. Sours

Say something cheery; wake a smile; These drowsy folks are tired to-day; Your heart is glad as flowers of May; Come, cheer them up a little while.

Experienced Man Wants Work As Orchardist or as Manager of Nursery

He is 27 years old, married, one young child, total abstainer, good morals, graduate New York State College of Agriculture at Cornell. He has had six years' practical experience in active management of fruit and nursery farm, is experienced in publishing, also has had one year's experience as editor of agriculture monthly. He is experienced as superintendent of fruit exhibit and judge of fruits, and offers best of references. He is open for position either in editorial work of agricultural journalism, or as superintendent of large commercial fruit proposition. For particulars address,

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Rochester, N. Y.

We'll save you the price of this farm weekly before you buy it

—An offer on which you can't lose

TAKE the hardest problem on your farm—the thing that's costing you money because you don't know what to do about it.

Maybe it's a poor crop, or a pest, or sick poultry, or a building to put up, or what not.

Sit down *now* and write us about it.

We'll put your question up to one of our 100 experts—actual practical farmers and well-known authorities.

It costs you nothing

We'll promptly send you the answer—absolutely free. *We* pay the expert's bill.

When you have done what he advises, and have satisfied yourself that our help has saved you money—\$2, or \$10, or \$100—then, if you want to, send us one dollar and get a year's subscription—52 issues of

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The Wonders of a Tree

By J. S. Underwood, Illinois

In this age of invention we hear much of the marvels of man's work. Wireless telegraphy, the automobile, the aeroplane, the telephone, the phonograph, and many other products of human ingenuity are indeed wonderful, but comparatively simple in construction. On the other hand, the humblest plant or animal of microscopic size and composed of but a single cell presents structural problems which have never been solved. How much more marvelous must be the structure of a tree, which consists of many organs with special adaptations and functions.

Division of labor has long been recognized in human society as a great economy. It increases both the skill of the individual and the efficiency of the whole body. This principle is brought to a high degree of perfection in a tree. The leaves require much air and light for the work they have to do. They are therefore very thin in the majority of trees and being light in weight the tree can easily support a large number of them. The little rootlets and root hairs have extremely thin and delicate walls. They must absorb water and soluble foods from the soil, and at the same time keep back impurities. The tip, or cap of the root, on the other hand, is hard and thick. It has to force its way

through the earth as the root becomes longer. The stem, or trunk, is very stiff, hard and strong, but at the same time, porous. It supports the upper organs of the tree and forms a conduit by which food may pass from the roots upward and from the leaves downward. Of course, not one of these could possibly do the work of another.

When the seed of the fruit of a tree is planted in suitable soil and germinates, two distinct parts may be observed, one growing upward, the future trunk and branches, and the root pushing its way deeper down into the soil. Under all conditions, whether light be present or not, this relation will be preserved. What is the stimulus that regulates these phenomena, and how does it act? The most careful microscopic analysis has utterly failed to give a satisfactory answer to these questions.

The effect of light on our trees, and indeed on all plants, is very marked. The leaves are usually set so as to receive the maximum of light, and if for any reason the light should be shut off on one side, the leaves on that side will very soon change their position to suit the altered conditions. In time, the whole tree will be affected, causing a lean to one side. For this reason, trees which grow close together have long, straight, bare trunks. The light comes chiefly from above. Here again,

if we examine this seed, we can eliminate a large part of merely a store of food, and again we can eliminate till we get down to the protoplasm of a few cells, and their governing nuclei. In one of these nuclei, itself of microscopic size, lie the powers and promise of the future tree. These determinative qualities are called rudiments. Their nature, however, can only be surmised.

One of the most remarkable things about a plant are the cells. A tree is an aggregate of millions of them, yet each one has its special place in the economy of the tree. Some, with their thickened walls, form strengthening tissue, some form various kinds of conductive tubes, others are concerned in the intricate processes of reproduction, still others in the collection and manufacture of food, yet in spite of the greatest diversity of form and function all these cells are blended into one beautiful and harmonious whole.

Seven Sentence Sermons

Courtesy costs nothing and buys everything.—Old Proverb.

And he said unto all, If any man would come after me, let him deny himself, and take up his cross daily, and follow me.—Luke ix 23.



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Just drop me a postal and I will send you free and postpaid my big, new Catalog of Split Hickory Buggies. Shows 150 snappy new styles—wonderful money-saving values and a price splitting offer on every job that has never been equaled on high grade buggies.
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gets bigger crops with half the work.
This No. 16 Planet Jr Single Wheel Hoe, Cultivator, Rake and Plow is the highest type of single wheel hoe made. Light and durable—can be used by man, woman, or boy. Will do all the cultivation in your garden in the easiest, quickest and best way. Strong indestructible steel frame. High, easy-running steel wheel. Costs little, and lasts a lifetime. 14 other styles of wheel hoes—various prices.
New 72-page Catalog (184 illustrations) free!
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Everything for Fruit Garden and Orchard
For thirty-six years we have been large growers and sellers direct to the planter of GOOD TREES, Plants and Vines. Make your plans now to plant Green's Trees next Spring.
Catalog sent only on application
GREEN'S NURSERY COMPANY, 9 Wall St., Rochester, N. Y.



A thrifty young Bartlett standard pear orchard. Notice the remarkable growth of new wood on the ends of the branches. A plantation of cabbage is growing in this pear orchard. My only criticism is that I would favor lower heads, that is the cutting back of the new growth each year to cause the heads to be lower.

in the relation of plants to light, lies a problem which the most learned scientist has not adequately solved.

These are unexplained physical facts in connection with a common tree. In its life activities are even more abstruse problems in chemistry. When we think of the science of chemistry, we are apt to see in imagination a druggist's shop with its rows of bottles, acids, and all kinds of evil-tasting salts. In other words, we think of inorganic chemistry, or that which is not related to life processes. We would class such substances as wood, seeds, foods of all kinds, as of an entirely different order, as indeed they are, but for one reason only—their extraordinary complexity. It is only in recent years that science has applied itself to the study of these compounds.

Only in the intricate laboratory of living things can the majority of these substances be produced. The delicate odors of flowers, the flavor of the nectar, the coloring of the flowers, and of the leaves in autumn, all these are chemical compounds, so extremely elusive that they have been isolated.

The essential constituent of all living cells is the remarkable substance called protoplasm. It has been analyzed, but little is gained by this means, or, it must be remembered that it is not living, but dead protoplasm which undergoes the analysis. It is the mysterious quantity called life which is the governing and selective power by which all the activities of a living tree are carried on.

It is not necessary to go to the full grown tree to find the seat of this power, and the qualities which determine the individuality of a tree, or species of trees. In the ripened seed of the fruit lie dormant all the characteristics of the parent plant, which are transmitted to the next generation. In-

Millions of Fruit Trees

We have over 2,500 acres planted to nursery stock. Our several large successful orchards were planted to trees from our own nurseries. Hence, we know what our trees will do. We now have millions of apple, peach, pear and cherry trees. Also thousands of other fruit trees, plants, evergreens, ornamentals, etc.

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All stock grown under personal supervision of Orlando and Geo. A. Harrison who have devoted their lives to fruit tree growing. We sell only the trees we grow. All stock guaranteed. Prices low, quality considered. Send today for free Fruit Guide full of valuable information.
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"MULLEN" Wax Lined Paper Berry Baskets

¶ In 15 years of manufacturing and selling our Wax Lined Paper Berry Basket, we have proven to have not only the Best Paper Basket made, but the Best Berry Basket on the Market. It comes to you all made up, ready for use, every basket perfect, with no loss for split, warped or broken baskets.

¶ If you are interested in purchasing the Best Berry Basket made, write to us and let us give you additional information and quote you prices.

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A subso piece of fifty year He wants

In reply which will strawberry ble than near hom black or through strawberr Mark the rows 3 1 berries in of strawb berries. Y strawberr can be up full posses fruit soon No man is too old peaches or is plenty o and to see

If a you farm, is m for a minu will be a m heat, supp say nothing man who on a farm of the year he did in to horse free, and his ho So stick Henry For his autom city to get young men —Farmer's

The mus vegetation, basal parts fond of the are brought ways during muskrats f what and get a meal tables, alfa accused al Muskrats a three to ni bred two c Farm.

Green's R write somet one and I c it. It is a grown in on it or leave it and was be the long sta Shipman, C Reply:— easily cared a fertile soil us. After t flower stem something l beautiful eve of white bl that so beau through the such as nurs out protecti Georgia and growing wil hardy. The planted with

There is o that is the o thing from t every man t Hundreds of vesting in not so prosp

Her Fathe sort of man l Young Ma are not the s father-in-law, your daughter to marry her "Daily News,

What Shall I Plant for Profit on a Small Plot?

A subscriber to Green's Fruit Grower has a piece of ground covering 75 x 100 ft. He is fifty years old and has been out of health. He wants something for quick returns.

In reply I will say that there is no fruit which will give such quick returns as the strawberry, and there is no fruit more saleable than the strawberry, as you can sell it near home. But you can plant rows of black or red raspberries at equal distances throughout the plot before planting the strawberries or after to good advantage. Mark the ground with a corn marker in rows 3 1-2 ft. apart. Then plant raspberries in every other row and plant a row of strawberries between each row of raspberries. You will get a crop or two of strawberries, after which the raspberries can be uprooted, leaving the raspberries in full possession of the soil. Peach trees bear fruit sooner than any other fruit tree.

No man fifty years old should feel that he is too old to plant an orchard of apples, peaches or pears. He should feel that there is plenty of time to plant such an orchard and to see it bearing fruit.

Stay on the Farm

If a young man is well established on the farm, is making fair progress he should not for a minute consider going to town, for it will be a mighty hard pull to pay rent, light, heat, support the family on his wages to say nothing about getting ahead. A young man who receives between \$300 and \$350 on a farm tells me he has more at the end of the year by working in the country than he did in town at \$65 the month. He has his horse free, his cow kept, his garden spot, and his house rent, and is money ahead.

So stick to the old farm, and when a Henry Ford offers \$5.00 a day to work in his automobile factory, don't hike to the city to get stranded like several hundred young men in Michigan have done recently.—Farmer's Guide.

The muskrat feeds mainly upon aquatic vegetation, especially the root stocks and basal parts of stems and is particularly fond of the sweet flag or iris. These bulbs are brought to the shore to eat almost always during the night. In summer the muskrats feed upon shore herbage somewhat and frequently go some distance to get a meal of growing corn, garden vegetables, alfalfa or growing fruit. They are accused also of occasional fish catching. Muskrats are very prolific producing from three to nine young at a birth and often breed two or three times a year.—Field and Farm.

Growing the Yucca

Green's Fruit Grower:—I wish you would write something about the yucca. I have one and I do not understand how to treat it. It is about three years old and has grown in one solid bunch. Shall I separate it or leave it just as it is? It blossomed once and was beautiful. What shall I do with the long stalk the lilies grow on?—James I. Shipman, Conn.

Reply:—The yucca is a flowering plant easily cared for, requiring little more than a fertile soil. It blossoms every year with us. After the bloom has fallen the long flower stem should be cut off. It looks something like the century plant and is beautiful even when not filled with hundreds of white blossoms. It is to be regretted that so beautiful a plant is so little known through the country. The hardy yucca such as nurseries sell are pretty hardy without protection in western New York. In Georgia and other parts of the south they have growing wild a larger yucca which is not hardy. The roots can be divided and transplanted without disturbing the old plant.

There is only one real life to lead and that is the one out of doors producing something from the soil. It is natural for nearly every man to have a longing for this work. Hundreds of successful city men are investing in rural property and hundreds not so prosperous are wishing they could.

Her Father:—"But, sir, you are not the sort of man I should like for a son-in-law." Young Man:—"Oh, that's all right. You are not the sort of man I should like for a father-in-law, but I'm not going to make your daughter miserable for life by refusing to marry her on that account."—Chicago "Daily News."

THINGS DON'T REALLY MATTER

Written for Green's Fruit Grower By Frank Monroe Beverly, Virginia

The Pessimist in his wonted strain

To the Optimist once said,
"Now Addison is running, sir,
For Senator, I've read."

"That's not so bad," quoth the Optimist,
"A fairly good man is he,"
And then he turned him face-about
The Pessimist to see.

"That he's a good man, I admit."
The Pessimist made moan,
"But the trouble is that he
Must make the race alone!"

"No one against him—that's your plaint,"
Said Opti with a grin;
"Well, Pessi, thus it seems to me
That Addison should win."

A Toast to the Horse

"Here's to that bundle of sentient nerves, with the heart of a woman, the eye of a gazelle, the courage of a gladiator, the docility of a slave, the proud carriage of a king and the blind obedience of a soldier; the companion of the desert plain, that turns the moist furrows in the spring in order that all the world may have abundant harvest; that furnishes the sport of kings, that with blazing eye and distended nostril fearlessly leads our greatest generals through carnage and renown, whose blood forms one of the ingredients that go to make the ink in which all history is written, and who finally, in black trappings, pulls the proudest and the humblest of us to the newly sodded threshold of eternity."

"Thou Shalt Not"—Worry

We have no conscience on the matter of worry; we do not think of it as a wrong; we never confess it even as a failing, much less ask forgiveness of it as a sin. If the preacher were to say "Do not steal" or "Do not kill" we accept the word at once as of Divine authority. But if the preacher should say "Do not worry" there springs up instantly a sense of resentment. Everybody knows the kind of feeling that meets such counsel. "Ah! It is all very well for you to talk," as if the authority were that of the preacher only, and not of the Master Himself. Who is not familiar with the angry mutter: "Let anybody live where I live, and put up with the things that I have got to endure!" That settles the matter in opinion of a great many. But mark from Whom this word comes, "I say unto you"—with Him this matter must be settled, the Lord and Judge of all men.—Mark Guy Pearse.

Most of us are willing to concede the superiority of our friends in the matter of making mistakes.

Prince Albert paves the way

for men to get a new and cheerful understanding of how good a pipe or rolled cigarette can be. If you *think* you can't smoke a pipe or a makin's cigarette; if you are taste-tired, we tell you Prince Albert will bring you back without any fuss or feathers—quick! The patented process fixes that—and cuts out bite and parch!



PRINCE ALBERT

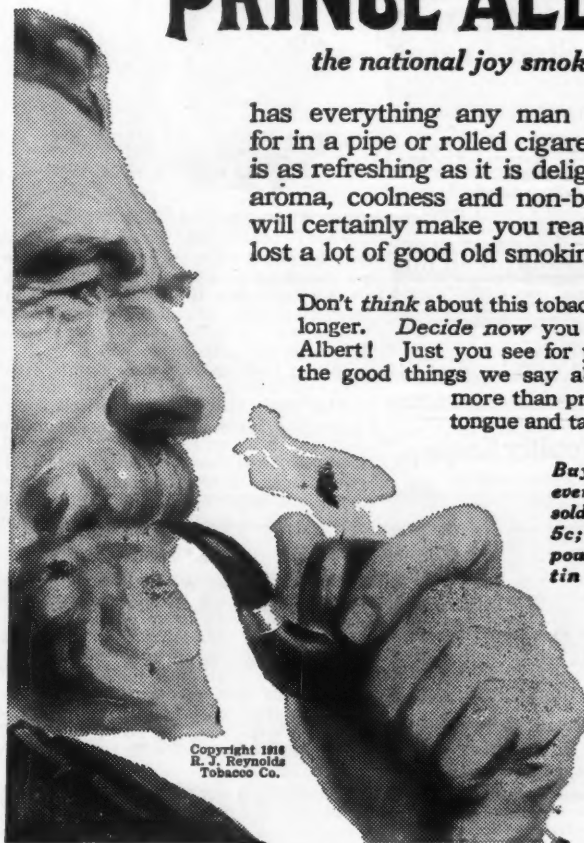
the national joy smoke

has everything any man ever yearned for in a pipe or rolled cigarette. Its flavor is as refreshing as it is delightful; and its aroma, coolness and non-biting qualities will certainly make you realize you have lost a lot of good old smoking time!

Don't *think* about this tobacco question any longer. *Decide now* you will try Prince Albert! Just you see for yourself that all the good things we say about P. A. will more than prove out to your tongue and taste!

Buy Prince Albert everywhere tobacco is sold in tippyred bags, 5c; tidy red tins, 10c; pound and half-pound tin humidors and in that classy pound crystal-glass humidor with sponge-moistener top that keeps the tobacco in such fine trim.

R. J. REYNOLDS
TOBACCO CO.
Winston-Salem, N. C.



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Learn how I paid one Belle City user \$100.25; another \$50, many from \$45 down. Write me today. Jim Rohan, Pres.

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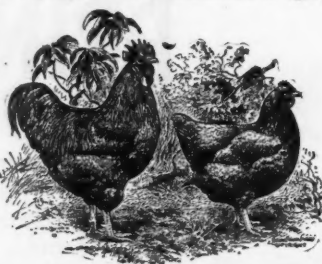
Poultry Dept.

SEASONABLE POULTRY POINTERS

Written for Green's Fruit Grower By Earle William Gage, N. Y.

Exercise for Fowls

If fowls are too closely confined, they will constantly be striving to get at liberty. They will try to fly over the highest fences, and in every way show how they love the range. This is true with the penned flocks, for they must have plenty of range whether in or outdoors. This uneasiness is against



the fowl's health and vigor. A hen in poor health will not lay eggs. They should have all the space that they desire. Better to keep a few fowls in a large space, than a large number in too small a space for the profits will be in keeping with the range space allowed. However well a poultryman may feed and care for his fowls, if the range space be too small, they will not turn out the profits that a pen will with the space. Too many fowls in a given space means that the hens refuse to lay, become ill, lose flesh, and become most unprofitable possessions. Make the winter quarters large and roomy. Hens will show their appreciation in more eggs, more song, more profit.

Green Foods

During the spring and summer we did not experience any trouble in keeping the hens supplied with green food. Or, rather, they supplied themselves. But it is different now. Winter weather is setting in; green forage crops are a thing of the past. But to the wise poultryman, green food days are just opening. Beets, cabbages, sprouted oats, alfalfa, clover, and a few other vegetables allow the hens their due food in greens.

Scraps from our table go direct to the hens in raw condition. I have feeding troughs made a purpose for mash and scraps, and the potato parings are the direct cause of many a hen concert. But they also have cabbages, beets, and the like, for I have been busy all summer keeping the weeds out of the hen's winter green food, and the vegetable cellar is now filled brim full of luscious green, sure to fill the egg basket during the cold winter days.

Grain for Poultry

Grain is the best staple food for poultry, and will be used for that purpose as long as fowls are kept on farms; but hens cannot give best results on grain alone. It is beneficial to them and will be at all times relished, but the demands of hens are such as to call for a variety. In the shells of eggs as well as their composition are several forms of mineral matter and nitrogen, which can only be partially obtained from grain.

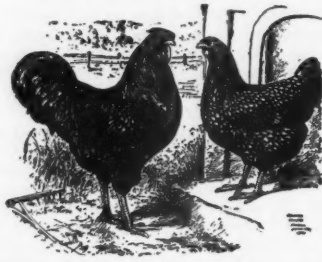
Even grains vary in composition and when fowls are fed on one kind for a long time, they begin to refuse it, as they may be over-supplied with the elements of the food par-

taken and lack the elements that are supplied from some other source. For this reason they will accept a change of food, which is of itself an evidence that the best results from hens can only be obtained by a variety of food. Corn and wheat may be used as food with advantage, but must be given as a portion of the ration only, and not made exclusive articles of diet.

Lice and Eggs

No use to expect the best results in the matter of laying if you allow your pullets and hens to stay in dirty winter quarters. Get busy with the whitewash brush and the kerosene spray and clean, clean, clean. Not only inside the house, but the premises all about it. If you have 50 hens in the laying pen, it will take about two hours to give them a thorough dusting, and you cannot spend your time more profitably. Men who cry "No time," also cry "No eggs." Let one person hold the pullets by the legs while the other fires insect powder into the feathers, brushing them back so that the powder works itself well into the roots. Get it under the wings, around the head, neck and every place where the feathers are soft and fine, for there is where the mites and lice love to cuddle and feast.

Brush the roosts and dropping boards with kerosene. Here is the "king's throne" of mites. They will pester the hens all night, and hens kept awake by mites nights will

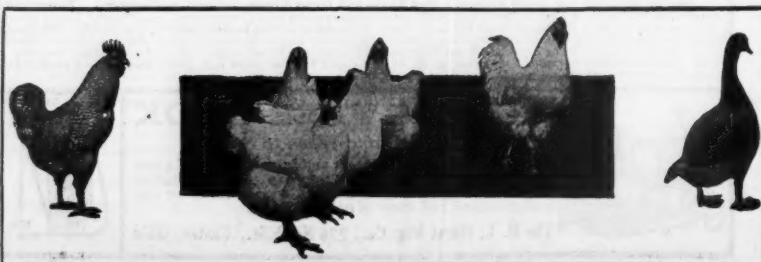


not shell out profitable production of eggs days. Body lice remain on the fowls all the time, but the mites seek the roosts and cracks for moments of seclusion. Get them while they are on their vacation.

Kerosene emulsion one of the best mixtures to use in combatting mites in the poultry house, is made by mixing two gallons of kerosene oil, half pound whale oil soap, and one gallon of water. Dissolve the soap by boiling in water, then remove from the fire and add the kerosene at once. Churn this mixture rapidly until smooth as beaten cream. One part of emulsion to several parts of water is used to dilute the mixture for application to buildings, dropping boards, roosts and nest boxes. Add one or two ounces of carbolic acid, crude, to the emulsion just previous to applying. This is a splendid disinfectant and insecticide to use about the poultry house.

Roup

The fundamental cause of roup can be always traced to filth of some kind, which may be no fault of the owner, since the birds may eat putrid food while out on the range when visiting a neighbor's premises, or when exhibited at some poultry show. But usually the trouble lies in the home poultry quarters, and especial care should be exercised to keep the yard free from putrid food and the house and all vessels used for feeding and drinking purposes as clean as possible at all times.



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Warm blankets bring out the Science of but common Roup of dark poultry. The fall shows him a little will slightly Throw the and the h entire day. Ashes or the poultry house free To obtain chicks the A draft in the flock. and much c Never ex weather. Hens lay are not used Keep the Never was colds and ro The time demand is g Cabbages, excellent gre Occasional wash with b When w hen house fl of the amm It does n not obtain e well to stud ter eggs and time comes. A splendi equal parts oats, which s Buttermilk kitchen and alfalfa, silag egg productio Successful winter deper member this In some r The buyer d large chicken often in der roaster. Green food winter. This keeps the dig Vegetables ar Keep all d with warm especially in give the tur can possibly healthful. If you wa stuff the bird When the he morning and roosts, you'll g many eggs. out of conditi It is claim hen manure o pounds organ Analysis show tains 2.43 pe per cent potas as ammonia a Right now study up on incubators ar how to hand careful person Meat in so to the fowls. beef scraps th Good beef sc per cent. It sl If you have dusting box in ing house. quickly. Fine Remember th that the lice mothered. K One reason winter month pullets, is th worms, bugs a meat substit place. The h requiring both

Poultry Notes

Warm quarters and the right ration will bring out the eggs.

Science in the poultry yard is all right, but common sense is better.

Roup often accompanies the damp and dark poultry house.

The falling over of the rooster's comb shows him to be in bad health.

A little moistened food is relished, and will slightly increase egg-production.

Throw the mixed grain into deep litter and the hens will keep busy during the entire day.

Ashes or air-slaked lime on the floors of the poultry house will assist in keeping the house free from mites.

To obtain good fertility and vigorous chicks the breeders must have ample exercise.

A draft in the poultry house means roup in the flock. Prevention is the best method and much cheaper than the cure.

Never expose fowls in blustery, snowy weather.

Hens lay a few more eggs when males are not used in the pens with them.

Keep the hens busy if eggs are the object. Never warm the food if you wish to avoid colds and roup.

The time to ship poultry is when the demand is good and the market steady.

Cabbages, mangels, potatoes, etc., make excellent green feed.

Occasionally take all the roosts down and wash with boiling soapsuds to kill the lice.

When wood ashes are strewn over the hen house floor the manure will lose much of the ammonia by the mixture.

It does not pay from any standpoint to not obtain eggs during the winter so it is well to study every method to obtain winter eggs and also fertile eggs when hatching time comes.

A splendid mixture for laying hens is equal parts of cracked corn, wheat and oats, which should be scattered in the litter.

Buttermilk, odds and ends from the kitchen and green food such as cabbage, alfalfa, silage, and turnips will increase egg production.

Successful handling of poultry in the winter depends upon feed and care. Remember this when looking after the chickens.

In some markets small fowls sell well. The buyer does not always care for a too large chicken. Well fatted Leghorns are often in demand over the big Brahma rooster.

Green food should be fed every day in winter. This serves as an appetizer and keeps the digestive organs in perfect order. Vegetables are greatly relished by the birds.

Keep all drinking utensils clean and fill with warm water three times each day, especially in cold weather. When possible give the turkeys all the sweet milk they can possibly drink. Clabber will also be healthful.

If you want eggs at this season, don't stuff the birds full at their morning meal. When the hens fill up first thing in the morning and then go back to loaf on the roosts, you'll get fat fowls, but you won't get many eggs. In a short time they will be out of condition "if you don't watch out."

It is claimed that 100 pounds of fresh hen manure contains 50 pounds water, 16 pounds organic matter, 56 pounds ash. Analysis shows that poultry manure contains 2.43 per cent phosphoric acid, 2.26 per cent potash, and 3.85 per cent nitrogen, as ammonia and organic matter.

Right now is a good time to begin to study up on the incubator proposition. Incubators are all right to those who know how to handle them properly, and any careful person can learn.

Meat in some form should be supplied to the fowls. They need protein, and in beef scraps this is found in good quantities. Good beef scraps contain from 50 to 60 per cent. It should be well aired and clean.

If you have a scratching shed keep your dusting box in it rather than in the roosting house. The dust will settle more quickly. Fine road dust is about the best. Remember the dust must be fine in order that the lice on the chickens may be smothered. Keep the dust box clean, too.

One reason why eggs are not laid in the winter months, even where there are pullets, is that the summer supply of worms, bugs and insects is cut off, and no meat substitute is given to take their place. The hen is an omnivorous feeder, requiring both meat and vegetables.

The cheapest form of green food is sprouted oats. To provide these, have a number of shallow boxes. Soak the oats 24 hours and spread them in the boxes, which have been provided with drainage holes. Sprinkle night and morning and feed when the sprouts are two or three inches long. A block six inches square is enough for ten fowls.

Green Feed and Grit

It is important that some kind of green food should be supplied when the hens are confined. Almost anything succulent will serve the purpose. It is not desirable to depend entirely on clover and alfalfa in winter. Cabbage, rape, mangels, potatoes, turnips or even ensilage should be provided for variety. Little attention need be given to supplying the hens with grit while on the range. In winter or when in confinement, grit in some form should be supplied. Lime is also needed for shell material. For this purpose oyster shell is excellent.

Quality of Market Eggs

The quality of eggs depends not altogether upon the length of time they have been kept, but quite as much upon the conditions to which they have been subjected between the time of laying and of their final use. Moreover, the quality of an egg may be affected to some extent by the foods eaten by the hen which lays it, and possibly by the season of the year when it is laid.

All these points and many others are discussed in a bulletin on the interior quality of market eggs, issued by the Cornell agricultural experiment station, which explains the processes of egg production and the structure of the normal egg. It tells also how the interior quality of market eggs may be studied and advocates candling as the best method. It gives directions for candling and instructions for making candling devices.



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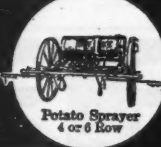
IRON AGE

potato machines but have room here for one only.

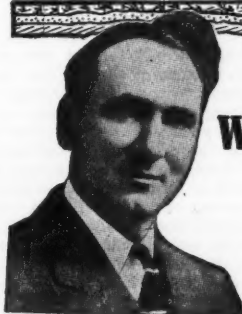
Potato Planters put one piece in every space and only one. Isn't it better to plant right to make every foot of ground count and none of the rest of the work wasted? Saves one or two bushels of seed on every acre. Sold with or without fertilizer distributor. Other potato machines are Riding and Walking Cultivators, Four and Six Row Sprayers (also one with low nozzles to reach underside of leaves), Potato Diggers, Weeders and Ridgers.

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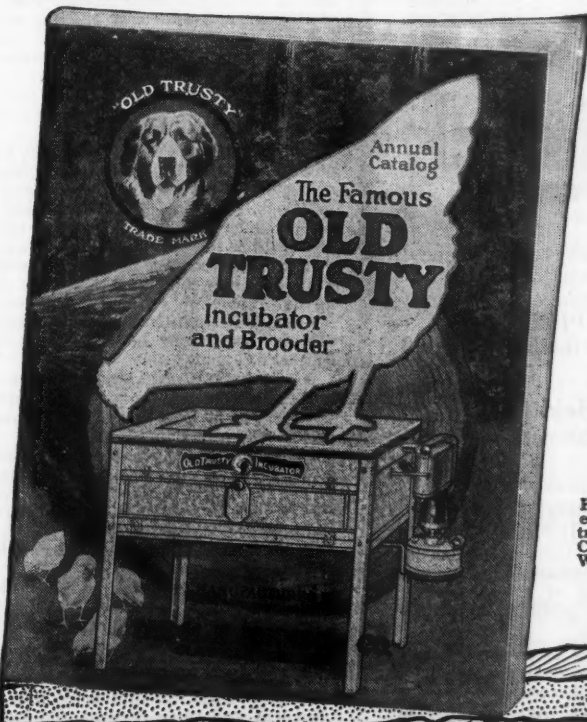


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How Foods Affect Eggs

Careful experiments indicate that the foods eaten by hens may affect egg quality. For example, green foods and yellow corn seem to cause a deep color in the yolk, while the use of white corn, wheat, and buckwheat results in pale yolks. Birds on free range lay eggs that have more color than those from hens kept yarded without exercise. Excessive amounts of green food are thought to produce eggs of marked odor and flavor; onions and cabbage having a direct influence in this respect.

The season of the year may also have its effect, those eggs produced in summer seeming to have a more watery albumen, or white, than those produced in winter. These watery eggs are likely to be of lower quality, and are therefore, less desirable for cold storage or long holding.

The care of the eggs themselves after their production has much to do with their keeping quality, according to the bulletin. Evaporation of the water in the egg through the pores of the shell should be prevented as far as possible. A proper temperature and a proper degree of moisture should be provided. Bacterial infection and rough handling should be guarded against.

Besides cold storage, eggs may be preserved by various methods. The best of these, as stated in the bulletin, are by lime-water and salt solution and by water-glass solution. In some cases cracked and broken eggs are dried or frozen, and in this condition they have been satisfactorily used for baking.

An unusual feature of the bulletin is its color plates, of which there are seven, showing the candling appearance and the opened appearance of eggs of different quality and at various stages. These illustrations were all made from actual specimens, the egg illustrating each condition being typical of a large lot.

The bulletin may be obtained by residents of New York state on application to the college of agriculture, Ithaca, New York.

Where Poultry is Most Profitable

No one can make poultry keeping so profitable as the man who owns a farm or a few acres of land and who keeps only one breed. Such a land owner, though he own 100 acres or more, or only one acre, will not have to buy much feed for his poultry through a large portion of the year, for the poultry can forage for themselves and be healthier and more productive of eggs and of dressed poultry than can the chickens that are confined nearly all the time.

I have a friend who started poultry keeping with three breeds, all of them desirable, but he was compelled to keep these birds confined all the year round. Since they could not forage and get their own living, he was compelled to buy grain for them, which he found expensive and which cut deeply into his profits.

This man, taking advice of an experienced poultryman, finally decided to keep only one breed and that the Plymouth Rocks, which he allowed full freedom of the plains. We hear much said about birds destroying insects, which is true, but we do not give the hens and cockerels the credit we should as destroyers of insect pests in the garden, on the lawn and in the nearby fields. A hen will start out early in the morning and do police duty in catching intruding insects until late in the afternoon and make no charge for her work. She will fatten on this work and lay a lot of eggs, more in fact than she will when confined and fed three times a day on expensive food.

Surely it will need no argument to convince you that if you have a little land and will confine yourself to one breed of poultry and that a profitable breed, you will make more money and make it more easily by allowing these birds to have free range than you can by keeping three or four breeds of poultry and keeping them confined continually, eating up expensive grain.

The trouble with the average farmer who might be far more successful with poultry is that he does not start with one pure blooded breed of birds, but gets a mongrel breed, a mixture of various breeds. If he confined himself, for instance, to the Plymouth Rocks, what a fine display these birds would make promenading around the yards, the garden and the lawn in search of insects and other food, and it is altogether likely that he will have a reputation among his neighbors as having a fine lot of chickens and will easily build up a trade for eggs for hatching and will be able to sell many birds at profitable prices for breeding.—C. A. Green.

Poultry Terms

There seems to be a somewhat hazy notion among amateurs as to the exact meaning of the terms used to designate young and old stock. A pullet, strictly speaking, is a female under one year old. After she has attained her full maturity she is a hen, but in the trade we speak of a fowl as a pullet until she has completed her first year's laying. Therefore, it is correct to speak of her as a pullet until she is eighteen months old, or has begun her first molt, says Farmer's Guide.

A cockerel is a male bird under one year old but he is usually spoken of as a cockerel until he has at least entered well upon his first year as a breeding cockerel.

Cocks are older males, usually having passed through one season's breeding. If you order cockerels for breeding purposes, you will get birds that have not been used for breeding. When ordering pullets you will get females that are under eighteen months, at the most.

A cockerel should never be used to breed from before he is a year old. A pullet, if she begins to lay at six months may be bred from at nine months of age.

Candor is the seal of a noble mind, the ornament and pride of man, the sweetest charm of woman, the scorn of rascals, and the rarest virtue of sociability.—Dentzel-Sernau.

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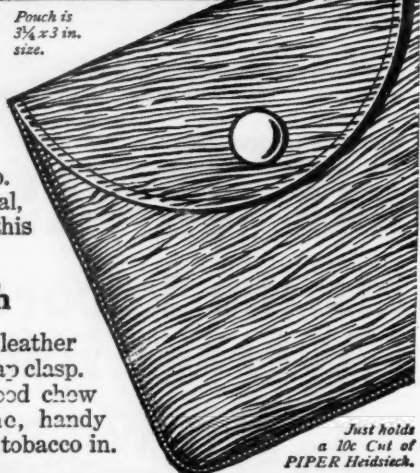
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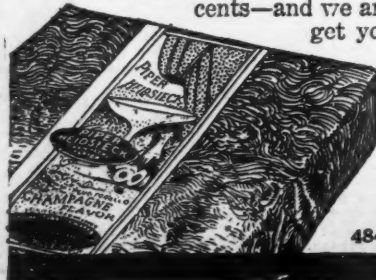
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 strawberry plants; ha E. WICKHAM, Sal

IS IT BETTER TO STORE OR SELL APPLES?

A subscriber of Green's Fruit Grower has sent in a mathematical problem for our readers to solve. Notice that we do not offer any prize, but that the writer advises parents to offer a prize to their children for

solving this problem. The friend who submits this problem assumes impossible keeping qualities of apples.

As stated, we will give the correct answer in the next issue of Green's Fruit Grower. We will publish the names of the first ten youngsters, or older people, who solve this problem correctly according to the figures of the friend who submits the proposition.

What Might be Done by Planting an Apple Tree while You are Young

Two boys who are the same age, each planted an apple tree on their 7th birthday (Nov. 1st).

A. planted an Ever Keep, Never Rot variety.

B. planted Jonathan variety. (They will not keep forever. I wish they would). On their 21st birthday each picked 10 bushels of apples and picked 10 bushels on each succeeding birthday during the life of the trees. They each took 5 bushels each birthday for use during the ensuing year. A. hoarded his surplus 5 bu. of Ever Keeps each year for future use. B. sold his 5 bushels surplus immediately each year for one dollar per bushel and banked the money at compound interest. The interest being computed at 4% per year and credited semi-annually, no interest being computed on less than full dollars. During the winter following their 50th birthday fire destroyed both trees.

On their 51st birthday, A. commenced using 5 bushels annually from his hoarded stock and B. commenced buying (not from A.) 5 bushels annually, paying one dollar per bushel and checking on his bank account to pay for them. What did each have on his 81st birthday resulting from planting those trees? The answer to this problem will be in the Fruit Grower next issue. The person figuring this out will have a splendid lesson in banking, also in what benefit could result from planting a tree while young.

The parent who offers his or her boy or girl a prize for getting the correct answer will be helping them more than giving the value of the prize to go to picture shows, provided they bank the money or buy a tree and plant it—C. Corbin, Ill.

Washing and Leaching of Manure

Farmers have been so accustomed to throw the manure from the stable in a pile in the barnyard, and leave it until it is convenient to haul it to the fields, that they do not give the matter of loss by washing and leaching any consideration. Usually but little of the value of the solids of the manure is lost in the stable, but great losses occur after it is thrown in a pile. The manure in the stable, saturated by the urine contains more than 50 per cent water. The moisture in the manure holds in solution the greater part of the plant foods which the manure contains. When the rains fall upon the manure and the water from the melted snow soaks into it, the leaching process carries away much of the soluble plant foods and it is lost beyond recovery, for it is either carried away in the water as it flows in the surface to the streams, or sinks into the ground where, for all practical purposes, it is wasted.

Fermentation and Heating

There seems to be but a few who fully realize the enormous losses sustained by fermentation and heating, while some classes of manures are in piles. As steam arises from the piles ammonia escapes and the loss is rapid and complete.

The manure from farm animals is of two classes: One called cold manures, and the other the warm manures. The manure voided by cattle and hogs is what is called cold manures, and that voided by horses, sheep and poultry is called warm manures. The warm manures, if piled only a little, heat readily and losses begin. The cold class of manures do not heat very quickly, except when mixed with lighter materials, like some light kind of bedding, when it will also heat, and losses will begin.

Sheep manure, though the richest in plant foods, heats quickly and becomes what we call "fire fanged." The heating often occurs in the stable when the sheep are being housed and the flockmaster or owner is unconscious of any losses. When the manure is taken out of the stable or shed, if there are any light, moldy places, it is evidence that the heating process has been going on and that part of the value has been burned out.—Michigan Farmer.

Every wish
Is like a prayer—with God.
—E. B. Browning.

Fruit Farm Neglected

Mr. C. A. Green:—I want your advice on buying a neglected apple orchard for investment. The orchard contains about 15 acres and has 750 apple trees on it. The Orchard has been set out about twelve years and has been neglected for eight years. The trees bore some apples this last summer and the apples are mostly Winesap and a few Smith Cider.—R. Evans, N. J.

Reply: You do not state definitely or explicitly what the condition of the orchard is which you think of purchasing. My opinion is that if this orchard is in fairly good condition, or if it is not so far gone that it can be resuscitated with great difficulty, I would consider it a profitable investment at a reasonable valuation. The valuation would depend upon the reputation of that particular locality for producing apples of good quality and on the appearance and condition of the trees themselves. If the trees are full of dead branches this is evidence that the orchard is not of much value. If most of the branches are alive and some new growth has been made the past season, this would be evidence of the fact that it is probably possible to make out of it a profitable orchard.

The character of the soil should be investigated. If the soil is poor, such as will not produce a fair crop of corn, wheat or potatoes, you may rest assured it will not produce a good crop of apples. I would not buy an orchard which has been planted in a new forest clearing where the forest growth has not been subdued and continually springs up and requires constant attention of that character.

In summing up I call your attention to the fact that it is difficult for me so far away to advise you, since I know nothing about the soil or about the condition of the trees. As a rule, stunted trees are something like a stunted colt or pig or calf, and it is difficult to change them into a thrifty creation.

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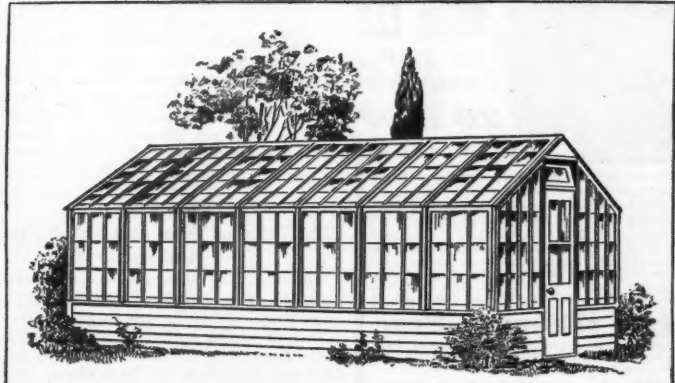
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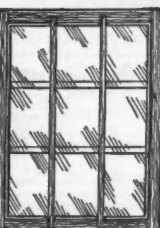
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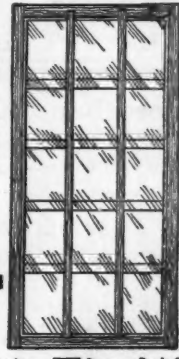
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Beginning with a single earload August 24th, the season closed October 29th, when three cars loaded solid with peaches were moved. In the interval between beginning and closing, a total of 4,187 cars were moved.

Had all these cars been linked into a single train it would have reached nearly thirty-two miles. The contents of this solid train of peaches, long enough to reach from Rochester to Batavia, was sufficient to have given every man, woman and child of the 10,000,000 inhabitants of the Empire state a substantial portion.

The high day was reached September 21st, when 272 cars of peaches were loaded by growers and moved out of the peach territory. Incidentally, thousands of tons of ice were furnished by the railroad company to turn August weather into something like an imitation of the Arctic zone inside the refrigerator cars in which the fruit was carried east, west and south to the big distributing points of the country.

New York City Domestic Green Fruits

New York—APPLES—Market quiet and weak under liberal offerings and moderate demand. PEARS—Selling slowly unless fancy.

Apples—Wealthy, per bbl.	\$2.00@3.00
—Snow, per bbl.	3.00@4.00
—Jonathan, per bbl.	2.50@4.00
—Twenty-Ounce, per bbl.	2.50@3.00
—Greenings, per bbl.	2.00@3.75
—King, per bbl.	2.25@3.25
—Northern Spy, per bbl.	2.25@4.00
—Baldwin, per bbl.	1.75@3.25
—Ben Davis, per bbl.	2.00@2.75
—Black Ben, per bbl.	2.50@3.25
—Rib Pippin, per bbl.	1.75@2.25
—Culvert, per bbl.	1.75@2.25
Pears—Kieffer, per bbl.	1.25@2.50
—Bartlett, per bbl.	2.00@3.50
—Seldon, per bbl.	3.00@5.00
Philadelphia—APPLES—Market rules quiet at former rates; supply ample.	
Apples—Jonathan, per bbl.	\$2.50@4.00
—Twenty-Ounce, per bbl.	2.50@3.00
—Wealthy, per bbl.	2.50@3.00
—Pippin, per bbl.	2.50@3.00
—Blush, per bbl.	2.00@2.50
—Ben Davis, per bbl.	1.75@2.50
—Other varieties, per bbl.	1.50@2.50

The Value of Trees and Shrubs Around the Home

In speaking with a party recently concerning the benefits derived from the planting of shade trees, shrubbery and vines around a house, he said: "It is surprising to me that more people do not give greater attention to this phase of home development. In my life I have built five houses and in every instance I have planted some shade trees, roses and other shrubbery because I not only admire them and love to see them grow and develop but in the selling of my property I have realized several hundred dollars more than I would have had there been no plantings made."

Right along this line of thought a writer in the Farm and Fireside says:

"Twenty-five dollars would plant and care for at least five elm trees for a 10-year

period. It is a moderate estimate to say that at the end of the second year, a building lot would be worth \$100 more for their presence. At the end of 25 years no man who owned the land on which they stood would take \$100 apiece for them. Plant an elm or a maple near your home and look upon it as a \$100 endowment policy, maturing in 1940, with no premiums after the first year."

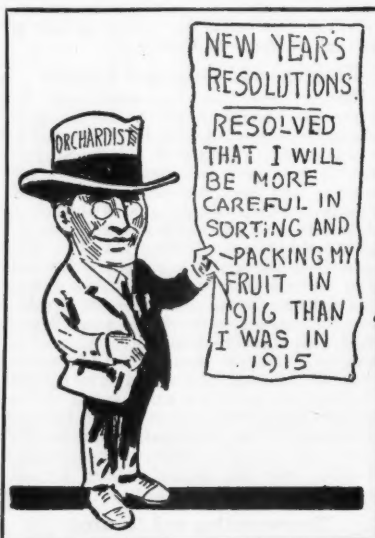
"No one thinks of shade trees as a profitable crop, and yet of all vegetable growth cultivated by the hand of man, none renders a more generous return."

If five elm trees are worth \$25 at the end of ten years, for the return of shade and attractiveness only, what would be the value of five good bearing walnut trees. There is no tree more handsome or suitable for planting if only shade and attractiveness is wanted.

90-Year-Old Tree Bears

Apples plucked from the oldest apple tree on the Pacific Coast, in Vancouver Barracks, have been sent to the Department of Agriculture by A. A. Quarnberg, ex-horticulture inspector of that district. This famous tree is almost 90 years old and produced a fair crop of apples this year.

Albert Green, who lives on the "Telephone road," just south of Rochester, in the town of Rush, secured a yield of 263 bushels of good potatoes to the acre this year, spraying the field eight times. The spraying was done in co-operation with the Monroe County Farm Bureau. Mr. Green left four rows unsprayed to note the results. At digging time the results were measured. The unsprayed rows yielded at the rate of 124 bushels to the acre, while the sprayed rows yielded 262 bushels, a difference of 138 bushels to the acre. Figuring potatoes at 75 cents in the field, the increase from spraying was \$103 per acre. His income per acre was \$196.50.



When the highest clouds are deflected from their normal west to east course and they jump a little and then begin to sink steadily it is time to get the cyclone cellar ready.

The future mistress of the White House is a true Virginian, for she is a direct descendant of Pocahontas. Thomas Rolfe, son of John Rolfe and the Indian princess, married a Virginia girl, and it was their daughter Jane who married Robert Bolling, first of the American line of Bollings. Edith Bolling, now Mrs. Norman Galt, seems to have all the Bolling love of out-door life, which some think is a direct inheritance from the beautiful Indian. She is tall, dark-haired and dark-eyed, though without the Indian height of cheek-bone that is seen in a few members of the family.

Charity covers a multitude of sins. But don't let that worry you. A lot more will spring up.

Some men are living refutations of the existence of a fool killer.

The best way to stop a woman's tears is to tell her they make her nose red.

How Trees Heal Their Wounds

Springfield Republican

When a bullet or any foreign body penetrates a tree not sufficiently to kill it, the wound cicatrizes almost in exactly the same way as a wound on the human body heals. If it did not, destructive microbes would enter and cause more or less decay of the tissues.

"Trees," writes Henri Coupin in La Nature, "are very well equipped for healing their wounds, and, more fortunate than we, an antiseptic dressing is almost automatically applied. As soon as the lesion has taken place the vegetable reacts to the wounded spot, its breathing at this point is quickened and at the same time protein matters are rushed to the scene."

"Many plants are provided with secreting canals filled with more or less gummy substances which are instantly poured out over the wounded surface and protect it. This is true especially of the conifers—pines, firs, etc.—of which the resin makes a swift and impermeable antiseptic dressing."

In trees that have little or no resin the wounded part turns brown. This is due to the appearance of a juice that seems to be a mixture of gums and tannin. And the cells of the tree start into activity, proliferating and filling up the cavity with new cells. If the wound be large these take the form of vegetable cicatricial tissue, which makes a plug and remains as a scar.

Dynamite and Tree Planting

The results of dynamiting for tree planting, based upon all of the tests made at the New Jersey Station during the past two years indicate that there is a greater development of branch and twig at the close of the first season's growth for peaches, but only a slightly greater development for apples where the trees were planted with dynamite. This development has not been accompanied by a corresponding increase in the circumference of the trunks. Both apple and peach trees planted with dynamite have developed a deeper and stronger root system than trees planted in the usual manner. In all the tests made, both with apples and peaches, the percentage of trees living through the first season was practically the same, whether dynamite was used or not. This is attributed to a previous thorough preparation of the soil before planting. The results of the tests as a whole indicate thus far that the advantage in twig growth the first season shown by the trees planted by the use of dynamite is not maintained the succeeding year.—Indiana Farmer.

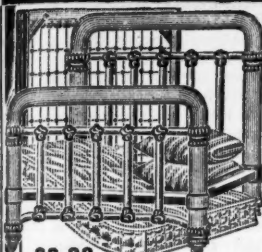
In shaping the trees, the orchardist must use his own judgment largely. Where the trees are very small care should be exercised not to cut away any portion of the tree which may affect its appearance in the future. Beginners should not start on young or small trees for mistakes on them are always costly. If you observe a serious fork in the young tree, it should be remedied at once by cutting away the one which you think will not make the best producer. If such a defect is remedied early in the lifetime of a tree it will scarcely be noticeable later, but to allow it to remain for any length of time is to injure and deform the tree permanently.

A Smouldering Conscience

There are people in whom the light of conscience has almost burned out. The moral sense which was purposed to be like a magnificent searchlight has lost its brilliancy and its power to direct the life. There are consciences that merely smoke like a bonfire the morning after a celebration of "gunpowder plot." These people have little or no sense of right. There is no clear flame in their purposes. They move about among men, governed by personal inclination. They are morally erratic, and the only continuity in their conduct is found in the pursuit of their own ends.—John Henry Jowett.

Editor Green's Fruit Grower:—I am glad to report that I have received both the publications that I subscribed for in club with the Fruit Grower. I find your Magazine as useful and interesting in my western home as when living on a farm in New England.

HARTMAN'S SPECIAL Farm Green It Plan



5-Piece, 2-inch Post Steel Bed Outfit

No. MK148. Complete bed outfit, consisting of elegant 2-in. continuous post steel bed with 4-in. fillers in artistic design, height head and foot, selected hen feather pillows 18x25 in. All sizes, 3 ft., 3 ft. 6 in., 4 ft. or 4 ft. 6 in., full size. Colors White, Pea Green or Vernis Martin. Think of being able to order this elegant bed outfit—bed, springs, mattress and pillows—without sending a cent in advance and sleeping on it 30 nights before you even decide to keep it. You could duplicate this bed outfit anywhere else at anything near our price, even if you paid all cash and we give you practically your own time to pay. Price, \$8.98.

\$8.98



3-Piece Library Set Bargain

\$12.65

No. MK184. Made of choice quality solid oak, fumed finish. Table has large 36x24 in. top, fitted with 2 roomy book ends, with large 7 in. connecting shelf. Panels at sides of book ends match panels on chair and rocker. Chair and rocker made with heavy 2 inch front posts fitted to genuine quarter-sawn oak arms, 3 1/2 inches wide. Seats and backs upholstered with imitation Spanish leather over wood fibre and soft cotton jute, supported by six heavy steel reinforced springs. Chairs 40 inches high; seat 22x19 inches. Price, Complete Set...\$12.65

Comfortable Rocker Bargain

No. MK176. A large, comfortable Rocker at a bargain price. Made of solid oak in golden finish in a very choice design. Upholstered with imitation Spanish brown leather on seat and back. Seat has 4 springs, stuffed with tow and cotton. Front and back posts are handsomely carved. Seat front plaited and back is button tufted. Strong posts and runners. Here is a rocker that is constructed for solid comfort—and it is a handsome piece of furniture as well—a rocker that will grace any parlor or living room. You can make no mistake by ordering it because if you do not think it the biggest value for the money you ever saw, you are privileged to return it at our expense. Price, \$3.57.



\$3.57



Hartman's Dresser Bargain

No. MK180. A remarkable offering of a beautiful dresser constructed of selected hardwood to which is applied a finish in imitation of quarter-sawn oak that closely resembles the real wood. Top of base measures 40x19 inches. It has French bevel plate mirror 24x20 inches in size, supported by strong standards. Top of mirror frame has neat carving. There are two small drawers at top of base, below which are two full length drawers, all fitted with wooden drawer pulls. When you see it you will be amazed that such an elegant piece of furniture, handsome enough for any home, can be manufactured and sold at the price we offer it. Compare it with dressers costing a great deal more and you will at once see that it is far superior in appearance, style, workmanship and finish. A rare value at our price, \$9.68.

\$9.68



Washing Machine Bargain

No. MK105. Tub is 8 shir capacity is made of Louisiana red cypress, corrugated on inside for effective rubbing surface. Finished natural color and bound by three steel hoops. Four pronged 10 inch cypress dasher block, cannot slip or crack. Gearing is durable; roller bearings. Here is a machine that will take the drudgery out of wash day for it is very easy to turn. Tub is supported by three legs bolted in to iron sockets. Does not tear clothes. Do not tire yourself out another day rubbing clothes on an old style wash board. How can you afford to when you can buy this easy-running, durable machine at the low price of \$4.50.

\$4.50



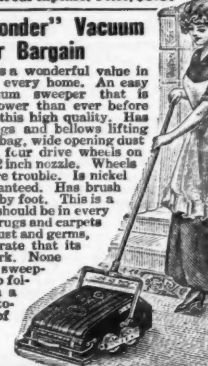
Hartman's Solid Oak Kitchen Cabinet

No. MK178. Elegant Sanitary "Comfort" whitewood table top 25 1/2 in., smoothly sanded; convenient sliding bread board; cutlery drawer; large utility drawer for bread or cake, and roomy utensil cupboard with pan rack on inside of door. Top has large china cupboard with two artglass doors; tilting flour bin, 45 pound capacity, with sifter and artglass front, sliding sugar bin, and two spice drawers. Cabinet stands 63 inches high and is finished in rich golden color. No kitchen should be without this beautiful and useful piece of kitchen furniture. Price, \$11.78.

\$11.78

Hartman's "Wonder" Vacuum Sweeper Bargain

No. MK162. Here's a wonderful value in an article needed in every home. An easy running, silent vacuum sweeper that is offered at a price lower than ever before asked for an article of this high quality. Has noiseless, fibre bearings and bellows lifting rods, steel frame dust bag, wide opening dust pan, pressed steel top, four drive wheels on brush, 8 bellows and 12 inch nozzle. Wheels are flanged to avoid tire trouble. Is nickel trimmed. Fully guaranteed. Has brush adjustment—operated by foot. This is a vacuum sweeper that should be in every home. Will keep your rugs and carpets absolutely free from dust and germs, and is so easy to operate that it is more like play than work. None of the dust of ordinary sweeping. You don't have to follow up your work with dust rag. Order one today at this unheard of price of only \$3.97.



\$3.97



Hartman's Library Table Bargain

No. MK179. Magnificent Library Table constructed of selected hardwood to which is applied a finish in imitation of quarter-sawn oak that closely resembles the real wood that requires an experienced eye to detect the difference. Corner in golden oak or fumed finish. Has square edge top, 42x28 in.; large drawer for papers or magazines; 2 1/2 in. square corner posts fitted to heavy scroll feet, and strong lower shelf. Not only is this a strong, solid piece of furniture, but it is also an unusually handsome piece of furniture. You will be proud to own it. It is made in the very best way and it is a great value at this remarkably low price of \$6.95.

\$6.95



Hartman's Collapsible Go-Cart Bargain

No. MK11. New all steel, collapsible Go-Cart, folds completely with one motion. Has heavy tubular steel pushers; beautiful ebony handle with silver nickel corners; 2 bow hoops; 10 inch wheels with 1/2 inch cushion rubber tires; metal fenders; 2 bow footwell hood; improved spring construction which guarantees maximum comfort for baby; back adjustable to several different positions. Price includes removable storm front with large mica window that folds into a bad-weather cart. Use the goods for 30 days and if they fail in any way to come up to your expectations, return them at Hartman's expense. If they prove the biggest bargain values you ever heard of—keep them and make your first payment in three months; balance in 3, 6 and 9 months thereafter, giving you a whole year to pay—WITHOUT INTEREST. With \$10,000,000 capital, over 1,500,000 satisfied customers and an organization that has grown for 60 years to its present stupendous proportions we are only too glad to accommodate our host of Farm Friends.

\$6.98



Solid Oak Dining Table Bargain

No. MK181. Beautiful solid oak dining table which can be ordered in Golden Oak or fumed finish. Has large 44 inch top which extends to 6 feet when opened; 4 inch rim; heavy octagon shape pedestal fitted to 24 inch plate. Corners which rest upon four Colonial scroll legs. It is excellently finished throughout. This is an elegant Dining Table one that will grace any dining room. A real bargain at our remarkably low price of only \$11.95.

\$11.95



10-Piece "Hartman Longware" Aluminum Kitchen Set

No. MK163. Comprises lipped preserving kettle, 5 qt. capacity, interlocking ears, 2 qt. lipped sauce pan, heavily rimmed steel handle, 12 in. strainer ladle with 4 1/2 in. bowl, 1/2 pt. measuring cup, graduations stamped 2 pt. plates 10 in. in diam., 2 qt. colander, 1 qt. pot. Seamless body, welded spout, etched wooden handle and cover knob, 1 1/2 qt. pudding pan, 1/2 pt. ladle, 1 pt. combination strainer funnel. Price only \$3.76.

\$3.76

No Money in Advance

Hercules Flint Surfaced Roofing

Most Durable For Any Climate
Best long fibre wool felt, saturated with pure asphalt, surfaced with very fine, flint crystals imbedded under enormous pressure. Strongest, most durable prepared roofing made. Fire resisting and water tight. Each roll 32 in. wide, 108 square ft. (enough to cover 100 sq. ft.) Nails and cement included.
No. MK156-1 ply, 5 yr. guarantee, roll \$1.15
No. MK157-2 ply, 8 yr. guarantee, roll \$1.35
No. MK158-3 ply, 12 yr. guarantee, roll \$1.55

Guaranteed Rex-Kote Ready Mixed Paint

Best Paint House Paint. Made from finest, purest ingredients, mixed by machinery. Guaranteed against peeling, blistering, chalking or rubbing off and to cover more surface per gallon, make a better finish than any other paint. Guaranteed Rex-Kote House Paint. \$1.02
As low as, per gal. \$1.02
Rex-Kote Mineral Barn Paint—can't be equalled for covering and wood preservative qualities. Two bright colors—brown and red. As low as, per gal. \$1.02
Rex-Kote Roof Paint—made from natural asphalt, linseed oil and other ingredients that make an absolutely water tight, acid proof paint. As low as, per gal. \$1.02

FREE Roofing Book

Showing all colors of Rex-Kote Paints and complete line of Free Samples of Hercules Roofing. Write today.

Never before has any Manufacturer or Mail Order House offered the amazingly liberal, wide-open credit terms equal to Hartman's. We say "Farm Folks, buy what you want—don't send a cent with your order—take a year to settle."

Pay in 3, 6, 9 and 12 Months

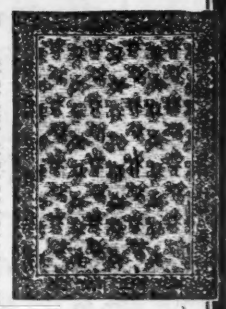
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FREE Hartman's Mammoth Bargain Catalog

Every page teems with wonderful money-saving opportunities. Hartman brings this amazing selection—greater than the combined stocks of probably a score of the largest city Home Furnishing Stores—right to you for quiet selection in your home. Pick out everything you need—Furniture, Carpets, Rugs, Curtains, Beds and Bedding, Clocks, Jewelry, Watches, Stoves, Refrigerators, Sewing Machines, Dishes, Washing Machines, Engines, Cream Separators, Incubators, Brooders, etc. You will find your every household need provided for at stupendous price reductions—all sold on HARTMAN'S Special Farm Plan—no money in advance—with a whole year to pay! WRITE FOR THIS MAMMOTH MONEY-SAVER TODAY! Ask for Catalog No. 211F.

Seamless Brussels Rug Bargain

No. MK177. Magnificent, extra heavy, seamless Brussels rug in two sizes, woven of selected yarns in a very attractive pattern of semi-oriental design that will look well in any room in your home. Colorings are of Tan, Red, Green and Brown harmoniously blended. This is truly a remarkable rug bargain. Order this rug and see how delighted you will be with it. Not a cent in advance, and you may keep it after 30 days examination, you have practically your own time to pay. Size 8 ft. 3 in. x 10 ft. 6 in. Price, \$12.74
Size 9x12 feet. Price, \$13.96



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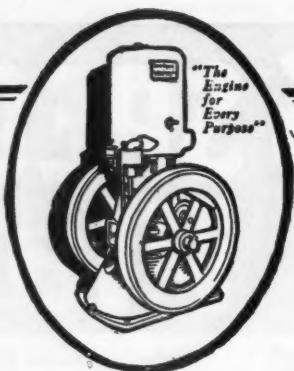


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4048 LaSalle Street, Chicago, Ill.



NOVO
ENGINES
AND OUTFITS



NO TANK
NO FAN
NO FREEZING
TROUBLE

Know the Spray Rig by its Engine

When you select a power sprayer the question of reliable service depends entirely on the reliability of the engine. Will the engine be reliable when working under the most difficult conditions. Will it at all times maintain a steady pressure back of the spray which insures an even distribution of the material.

The Novo engine is designed to meet the needs of the most exacting orchardists. The largest and most successful sprayer manufacturers have adopted Novo engines as standard equipment for their spray rigs. This was done only after the most thorough tests of other engines.

Concrete mixer manufacturers have also used and tested engines of every make with the result that over 80% of the concrete mixers are run today by Novo Engines. Manufacturers of air-compressors, water and lighting systems and hoists have also independently adopted Novo Engines.

The heart of the sprayer is its engine. You can afford to accept only the most reliable and durable engine.

The Novo is entirely self contained. It is the lightest engine for the power developed which is a big advantage to you. It is so simple anyone can operate it. The gasoline is in the base and is raised to the cylinder by a self actuating pump. You simply pour water in the hopper at the top which cools the cylinder without further fuss or worry. There are no cumbersome tanks, pipes or circulating systems. There is no danger from freezing. A guarantee bond is furnished with each engine.

Your dealer can furnish you a Novo equipped sprayer if you demand it. If you have the slightest difficulty write us and we will put you in touch with a manufacturer or dealer who will. Write us anyway for our interesting booklets explaining more fully the reasons back of Novo's superiority.

Novo Engine Company

CLARENCE E. BEMENT, Sec'y and Gen. Mgr.

606 Willow St.,

Lansing, Mich.

Northern Grown English Walnuts



Plant A Few Nuts This Fall

We offer to give four hardy English walnuts as a premium with Green's Fruit Grower one year all for 50 cents, all going by mail at our expense. The vicinity of Rochester, N. Y., has become noted throughout the country for its production of hardy English walnuts. There are located near Rochester two large English walnut groves that bear an abundance of nuts. I have seen a two-horse wagon load of these nuts brought into Rochester for sale. Both of these large Rochester nut groves came from seedling nuts such as we offer. Do not delay in sending in your 50 cents for Green's Fruit Grower one year and four hardy English walnuts. They are profitable to grow and delicious to eat.

Address GREEN'S FRUIT GROWER CO., Rochester, N. Y.

Billy Sunday Apples

New York state has carried off the highest prize for superior apples at the Panama exposition, and Rochester, N. Y., has carried off the highest prize for attractive exhibits of apples on Apple Day in competition with the other large cities of New York state.

Naturally we are proud of the apples grown in the state of New York. Dr. William Sunday, known widely as Billy Sunday, the baseball revivalist, has been holding meetings at Syracuse, N. Y., where 10,000 to 15,000 people have been present at each service. Train loads of people from Rochester and neighboring towns have visited Syracuse to hear the eloquent Billy Sunday. The consensus of opinion has been that he is a sincere, earnest man, desiring to help his fellows.

When the Williamson fruit growers went to Syracuse to hear Dr. Sunday, they carried with them and presented to the eloquent preacher a basket of various kinds of apples grown at Williamson, N. Y., which is a suburb of Rochester. This basket of beautiful fruit was topped off with specimens of the Banana apple, which, as our readers know, is of the color of bright gold with a blushing cheek. Dr. Sunday was greatly pleased with this gift. He said that he had been, or was still, an apple grower from Kansas, and that he used to think Kansas apples could not be beaten, but this was before he had seen such wonderful varieties as those grown in the neighborhood of Rochester, N. Y.

His Grape Vine

Mr. C. A. Green:—We are in a quandry in regard to one of our grape vines. For three years we have not had a grape from it. A year ago I pruned it back on the two bud system and it was later in the season covered with blossoms making the air very fragrant. Within a few days however the blossoms dried up and not a grape was set. It grows luxuriantly but we do not want leaves but grapes.

Last spring I read somewhere about changing sap flow by driving a spike into a vine so I drove a small one into the trunk about a foot above the ground. Had I better apply a hatchet about the same place this spring?—Wm. B. Taylor, Mass.

Reply:—You should have given the name of the grape you speak of. There are varieties of grape which need other varieties of grapes growing near them in order that the blossoms may be fertilized with pollen. But grape vines sometimes are growing so fast that for this reason they are not fruitful. Then again, the blossoms may have been injured by a late spring frost, which is the most likely cause of barrenness. You should not be satisfied with one grape vine. Plant at least a dozen grape vines, among which should be Niagara, Worden, Delaware, Diamond. You need early ripening kinds.

Grafting Walnuts

Green's Fruit Grower Co.:—We are eager to get some nut trees started on our farm. As the trees are expensive we wish to see if we can raise part from nuts. We have three large black walnut trees in our door yard. Would it be possible to bud or graft these to English walnuts?—Ken-Mer Farm, Virginia.

Reply:—Yes, it is possible to graft black walnut trees with scions of English walnut. I have not experimented with such grafting, but I am told that it may be successful, but more than ordinary skill is required of the grafter.

Most New York People Live in Cities

The population of New York state is 9,700,000. Of this number about 2,500,000 have homes in villages or on farms. Almost all of the cities in New York state show an increase in population over five years ago. More than half the people in New York state live in the city of New York.

While the residents of cities point with pride to the increase of population in cities, the prosperity of the country would be augmented if the reverse could be shown, indicating that the cities were not so populous and that more people were living in the country upon our productive farms, which are unsurpassed the world over.

New York is unsurpassed in the beauty of its farms. The land here is rolling, one hill and vale leading to another, on and on from the western limit to the Hudson river. Scattered over the hill tops or hill sides are frequent woodlands and scattered between the valleys are thousands of lakes. How strange that our men and women

should leave such attractive farms for the city, and especially for New York city, where there are constantly to be found thousands of people who have great difficulty in getting enough food to prevent them from starving or enough clothes to cover their bodies.

English Walnut Boy Planted Is Now a Tree

To the Editor of the Rochester, N. Y. Democrat and Chronicle:

Sir: I have been quite interested in several articles in your paper in regard to raising English walnuts in this vicinity. Seven years ago, when but 7 years of age, George Whitley, of No. 198 Barrington street, planted an English walnut at No. 810 North street. Since then a tree has grown to be nineteen feet high, and it measures nineteen inches in circumference at the base. Five nuts were gathered from it some days ago. It has borne this year for the first time. A much larger crop is expected next year. William Whitley.

Editor's Note: Notice the success of the seven year old boy in securing a large and fruitful English walnut tree from the planting of a single nut. This is the manner in which the English walnut has been introduced into western New York. In some instances, nuts have been brought here that were produced in Philadelphia. Nearly all of the trees and orchards of the English walnut in this locality are the product of planting the nuts. I am receiving letters from readers of Green's Fruit Grower stating that they have succeeded in securing English walnut trees from the nuts of hardy varieties that were offered as a premium with Green's Fruit Grower. Notice that we offer four hardy English walnuts, freshly gathered from the Thomson grove of walnut trees near this city, to every subscriber who sends 50 cents for one year's subscription. Do not delay if you desire these nuts since we only have a limited quantity to offer.

Big Onion and Beet Crops

Editor of Green's Fruit Grower:—Prominent among the growers of onions and beets between Kenosha and Racine, Wis., is William F. Hansche, who has made a reputation in the growing of all kinds of truck crops. His most important crops are onions and sugar beets. Of the hundred acres in Mr. Hansche's farm much is tiled and the remainder is drained naturally.

His mains are eight inches in diameter and his laterals three inches. Mr. Hansche says that this is too small for laterals, and the only excuse there is for them is that they were put in years ago, when even 2 1/2-inch tiles were considered large enough for laterals. At that time, the retardation of water in passing through small tiles was not understood. Mr. Hansche says that if he were to lay laterals now he would use nothing smaller than four inches.

This year, Mr. Hansche is raising 12 acres of big onions and 3 acres of sets. He uses a complete fertilizer with a fair proportion of nitrogen, an ordinary amount of phosphoric acid, and as much potash as he has been able to secure.

He believes in heavy fertilizing and applies on his onions approximately 1000 pounds per acre. In addition, he puts on the same ground a very heavy application of stable manure secured from Chicago. He has found by experience that he needs to supplement his stable manure with mixed fertilizer. He has also found that it pays better to do heavy fertilizing than light. He has been following this course for the past six years.

He says he has had yields of onions up to 900 bushels per acre, but that his usual yields run from 500 to 600 bushels per acre.

He is raising annually about ten acres of sugar beets. He has used some fertilizer on these, and reports good returns. He says that last year his sugar beet crop averaged 23 tons per acre.—Henry F. Thuston, Ills.

A Letter of Appreciation

Editor Green's Fruit Grower:—Accept my thanks for the excellent advice contained in your letter in answer to my questions. My knowledge of fruit growing to date has been mostly obtained from your paper, which I regard highly. I expect to be a continuous subscriber and will urge any others interested in fruit growing not to neglect to seek the assistance that your publication affords. Yours with appreciation, S. D. Cooper, Ohio.

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GROW NUTS

Every farmer has, or should have, a grove around the house. Aside from the benefits of a grove as a wind break and shelter, a place to cut wood and posts, the permanent grove can just as well contain some nut trees, says Western Farmer. These will afford shade, add beauty to the homestead and furnish valuable food for the family. Too little attention is paid to the trees of real value. The willow, cottonwood, soft maple and such trees are so easily grown that they take the place of the slower growing, but more valuable trees like the walnuts, butternuts, hickorynuts, etc. These are among the finest trees grown. The children at least would enjoy the nuts in the winter. When you set trees this spring do not forget the nut trees. If you do not care to buy them of a nursery you can raise them on the farm, but they need your care. The nuts should be laid on the ground and covered with sand, and leaves, so they will stay moist. Usually a house kept nut is too dry to grow. When spring comes plant in rows six inches apart. The following spring dig up and cut off most of the tap root and set again. Repeat the performance the third spring. The next spring they can be set where they are to remain. The cutting off the tap root is to force the growth of fibrous roots and make it possible to transplant the trees.

Give good cultivation and a rich soil, and you will be surprised at the rapid growth made by what you supposed were slow growing trees. If a good nurseryman will start the trees right you save this trouble and time by getting young trees. Take care of the newly planted trees and vines as they are like young babies, they need care and attention if they are to develop along right lines. A liberal mulch is good for them, so made as to hold the water that falls upon it.

How to Plant English Walnuts

Mr. Thomson, the owner of the large English walnut grove near Rochester, N. Y., did not plant trees. He simply planted nuts in the orchard where the trees were to remain for fruiting. He planted the nuts in his garden in the fall and allowed them to remain there until they had begun to

burst their shells in the spring, when the shoot which was to form the tree had just begun to push outside of the shell. Then he planted in the field where each tree was to remain two or three of these sprouted nuts, permitting only one of them to grow and form the tree of his orchard. He was successful in starting his grove in this manner, but others might not be so successful, therefore I do not advise such a course as that pursued by Mr. Thomson.

My method is to plant the nuts in rows or drills, as you would plant garden peas, scattering the nuts in a shallow trench four inches wide, two inches deep, and covering the nuts thus scattered with sandy soil, through which the young shoots from the nuts will have no difficulty in forcing their way into the sunshine above. I allow the nuts to sprout and grow in this row for two years, then transplant them into garden rows six inches apart between the trees, the rows to be 18 inches to two feet apart or farther. When the trees are of proper size for transplanting I dig and plant them where they are to remain.

Notice that Green's Fruit Grower is offering to send by mail postpaid four nuts, from the hardy strain of English walnuts with which Mr. Thomson has succeeded so notably, with one year's subscription to Green's Fruit Grower. If you have ordered these nuts, when receiving them you should plant them at once in the garden, not deeper than three inches, marking the spot with a labeled stake. Or you can plant in box of moist sand in cellar until spring. We have received letters from subscribers stating that they have succeeded in securing trees from these hardy English walnuts and have expectations of successful nut growing.

Farmer's Growth Through Service

"Communities are much like individuals. No individual can grow unless he serves. No community can grow economically, socially, morally, or ethically unless it is aroused to the need of service. Growth, to be permanent, must come from within, and the only way it can come from within is for the people who constitute it to move, to act, to do something for the common

good. In the old days when we selected a good farmer, because he was a good farmer, to go out and help other farmers, the most surprised man was the good farmer himself, for he found at once that the mere fact of his helping other farmers helped him as much or more than it did his neighbors. If farm bureau work is to be permanent, if it is to accomplish its aims economically, socially, and, I might say, morally and ethically, it must be an outgrowth of local spirit, wisely guided, but not directed or dominated by any agencies from without.—Dean, B. T. Galloway.

Lime Helpful to Soil

A few crops, like cranberries, blueberries, sorrel and others, prefer a sour soil, but the great majority of our farm crops, and especially the most important of them—says The Rural New-Yorker, leaving out corn—will not do their best unless the soil is sweet or at least not sour. It would require more chemical knowledge than I possess to explain why that is—so we can merely say that lime is the great substance for correcting an acid soil. Well-rotted manure will do it in part and so will thorough tillage and drainage help, but lime is the great medicine for a bilious soil! Lime does other things. Sometimes a hard, stiff clay gets into such condition that water and air cannot pass readily through it. In wet weather it is like putty—in drought like a brick. The particles of soil are so fine and are packed so closely together that there is no drainage or ventilation. Now when we put an active lime, like the slaked form, on such soil, an action known as "flocculation" is started. To understand what this means, stir up a mud puddle until the water is thick and yellow. This condition is due to the fact that very small particles of clay are floating about in the water—too small and light to sink quickly and clear the water, as sand would do. Throw a handful of "quicklime" into this muddy puddle. The water quickly clears. What happened is this: The lime brought those little soil particles together into little flakes. These being heavier than the single particles sink and clear the water. In the hard, pasty clay the lime has much the same effect by

uniting the fine soil particles and thus making a coarser soil through which the water and air and also the plant roots can move freely. That is why the more active forms of lime are more useful on heavy clay soils than the less active ground limestone. On lighter land lime has the opposite effect of compacting the soil so it will better hold moisture and not take in too much air. There are other actions of lime in the soil which we shall come to later.—H. W. C.

Business Farming

Editor of Green's Fruit Grower:—"One eighth of farming is science, three-eighths are art and one-half is business," is a classic quotation by Dr. Seaman Knapp, for years one of the leading men of the U. S. Department of Agriculture at Washington.

Are you making a business of your farming? Are you using business methods in operating your "farm-products" factory? The city business men believe in advertising. They say and can prove that "if you would succeed, you must advertise." Farmers who are applying business to their farming operations say and can prove that "if you would succeed, you must fertilize."

Did you ever hear of a business man who spent "too much money" advertising? Did you ever hear of a farmer who "spent too much money" fertilizing? There may be instances, but they are certainly only exceptions. Money spent judiciously by the business man "to advertise" and by the farmer "to fertilize" will always bring big returns. It pays, and is seldom if ever overdone. Frequently it is much underdone. If you must neglect any factors, slight the scientific and the artistic sides. Apply business methods to the business of farming and watch the returns.—Clyde A. Waugh.

Green's Fruit Grower Co.: I can't tell you how much I enjoy your valuable monthly issue. I put it along side of the Christian Herald. Its moral tone and precepts cannot fail to give all its readers ideals worthy of their highest living. I have enjoyed recommending the Fruit Grower.—F. H. Trask, Melrose, Mass.

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is just what the name indicates
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Your name on a postal will bring catalog and information.

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Whittaker

Burnham's

By
Hugh Musical
Pendexter



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It was the first phonograph to come to Peavy's Mills, and its advent caused something of a stir. The town clerk had just characterized it as "on-religious," and was endeavoring in vague desperation to prove that its only mission was to play "dance music." The selectman and the G. A. R. veteran, as they filled pipes from his plug, took no positive stand, but readily united with him in asking, Why had Whittaker Burnham bought it?

The selectman for the tenth time repeated, "How came a man so set an' stern in his natur' as Whittaker ter go in for talkin'-machines? I always s'posed he lived only ter double th' dollars."

"While I don't approve of his buyin' it," drawled the town clerk, "I guess I've found th' reason. He wants ter chirp up his wife. Ever since their boy Bob ran away, ten years ago, she's been gloomy an' depressed like. Whittaker, close as he is, would buy anything ter rouse her up. But dang a talkin'-machine!"

"Yas," observed the stiff-legged veteran, who reveled in a local reputation of having supplied the brains behind every campaign in the Civil War; "they're mighty peculiar. I guess no one knows what they really be. I remember when Grant was askin' my advice about th' Wilderness—"

"A talkin'-machine is peculiar only in its disposition ter be cussed," amended the town clerk heavily. "They work simple enough. Th' principle is—wal, ye know how they condense milk? It's jest th' same." "Jest like canned an' preserved stuff" cried the selectman loudly, his eyes dilating as he absorbed the theory.

The veteran's jaw flapped loosely as he listened to this simple exposition, but the clerk received the interruption coldly. "As I was sayin'," he continued, "it's like condensin' milk. Ter say music is canned ain't ter th' pint. It's more'n that. It's condensed." And he surveyed the selectman defiantly. Then, swinging his chair to face the open-mouthed veteran and ignoring the selectman, he gravely elucidated. "Ye see, they squeeze th' music inter th' smallest compass an' trim off th' edges. When th' machine starts goin' it kind of expands, meller like, an' ta-ta-tra-la-la, an' there ye have it!"

The veteran ruffled his sparse locks dubiously and tried closing one eye in a futile essay to get the proper perspective, while the selectman frowned at the stove and shifted the conversation by reminding the others of the original question. "But ye ain't give no answer ter th' invitation, I was asked by Whittaker ter call here an'

invite ye up ter th' house ter-night ter hear th' contraption play for th' first time. My errand's done. What d'ye say?"

"Don't think I'll go," declared the clerk, biting a penholder meditatively. "It's immoral."

"Wal, I think I'll accept," confessed the veteran sheepishly. "I don't expect ter enjoy it much, but Whittaker might feel put out if we all kept away. I remember when General—"

"Ye see," expostulated the clerk sorrowfully, "they can teach a machine ter say anything. Who knows what this one has been taught?"

"By Judas!" cried the selectman, his dull eyes bulging. "I know now what old Burnham is up ter. His wife is failin' every day because nothin' is ever heard of Bob. Whittaker'd rather lose all his money than his wife. He's goin' ter talk into this thing an' teach it ter cry out that a reward will be paid ter anybody furnishin' him with a clue ter Bob's whereabouts. Machines in every city will be ripplin' it off, an' somebody is sure ter hear th' offer."

The town clerk's eyes rolled wide in amazed envy as he ponderously digested the suggestion, and his pipe grew cold as he regretted that he had not advanced the theory. The veteran, too, he loathed to behold, was impressed to the point of stupor. Naturally, it all irritated the clerk, and as soon as he could group his features into a sneer he sought to turn the tide by facing the veteran and felicitating that individual by earnestly inquiring: "Lemme see, what was it General Scott said ter ye when ye called on him in Washington?"

But the selectman was not to be sidetracked so easily, and before the veteran could delight in a long-drawn-out recital he babbled aloud in self-admiration, and with much gusto repeated the salient points of his conclusion. As the clerk could not endure any relegation to the second rank, he closed the situation by loudly banging his desk-cover and proclaiming that it was time to go for the mail. But even after he had ushered his guests outside, the selectman talked on, and the veteran, with mouth agape, forgot reminiscences in listening.

The clerk, halting on the top step, viewed the two in sullen silence for a moment. Then further to evince his position he bleated: "No, I sha'n't go up ter-night. I don't believe in them contraptions."

Old man Burnham, in the meanwhile, was experiencing considerable difficulty with the "contraption," or seemingly so. His wife had paid but scant attention as he unpacked it, and his mouth pulled down at the corners as he furtively noted her abstraction.

"I guess I can never fix this horn on, now I've bought th' dangd thing," he grumbled. "Let me help you, dear," she offered listlessly, and his frosty gaze burned warm as he saw the color mount her cheeks in her deft endeavor to aid him. "Why, you've turned this screw 'way in," she cried triumphantly, as with her scissors she remedied his blunder. "Of course you couldn't fix it with the screw that way." And quickly the horn was secured in place.

"We'll enjoy this, I'm a thinking," he observed genially, still studying her careworn face from the tail of his eye.

"Enjoy it? Oh, yes, we'll enjoy it," Mrs. Burnham repeated vacantly. "Ten years ago yesterday it was. Ten long weary years!"

"Why d'ye always hark back ter that?" he cried in despair, and his black-veined hand shook as he arranged the records. He knew it was foolish to expect her to forget. He had hoped, however, that the talking-machine would by some mysterious means operate to arouse her brooding mind, even if but for a day. He had purposely tampered with the screw to give her a petty victory, and now she was cast back amid her bitter

cogitations again, and her eyes neither saw him nor the toy as she sat by the window and propped her chin in one thin hand.

It was her favorite seat; for from that particular window she could watch the brown sweep of dusty road until it dodged behind the curve. On winter nights she had sat there, oblivious to his presence and with the curtains pulled behind her, so she might pierce the darkness.

"Why d'ye always hark back ter that?" he repeated weakly, now inviting what he had fought so hard to avoid.

"To Bob?" she inquired wearily. "That what you mean, Whittaker?"

"Yas, I mean Bob," he returned fiercely. "Ain't I yer husband? Ain't I ter be considered at all? Don't I count for nothin'?"

(Continued in February)

The fellow who is sowing his wild oats can generally be depended upon to raise the deuce.

Love maketh a light heart; also a dark parlor.

Classified Advertisements

No display advertising will be placed in this department and no type larger than 6-point. The first three words only to be printed in capital letters. Each abbreviation and number will count as one word. Rate 10 cents per word for each insertion. No advertisement inserted for less than \$1 per issue. We cannot afford to do any bookkeeping at this rate. Cash must accompany every order. Orders must reach us not later than the 15th of the month previous to the month in which the advertisement is to appear.

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Green's Fruit Grower Co., Rochester, N. Y.

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MEN AND WOMEN wanted everywhere. Government jobs. \$70 month. Short hours. Vacation. Big chance now for farmers. Write immediately for list of positions now obtainable. Franklin Institute, Dept. F 147 Rochester, N. Y.

MAKE MONEY KNOTTING Hosiery for us; best machine furnished, either plan; season now on; write to: GLEASON, Mid-City Sales Corp., 803 Madison, Chicago.

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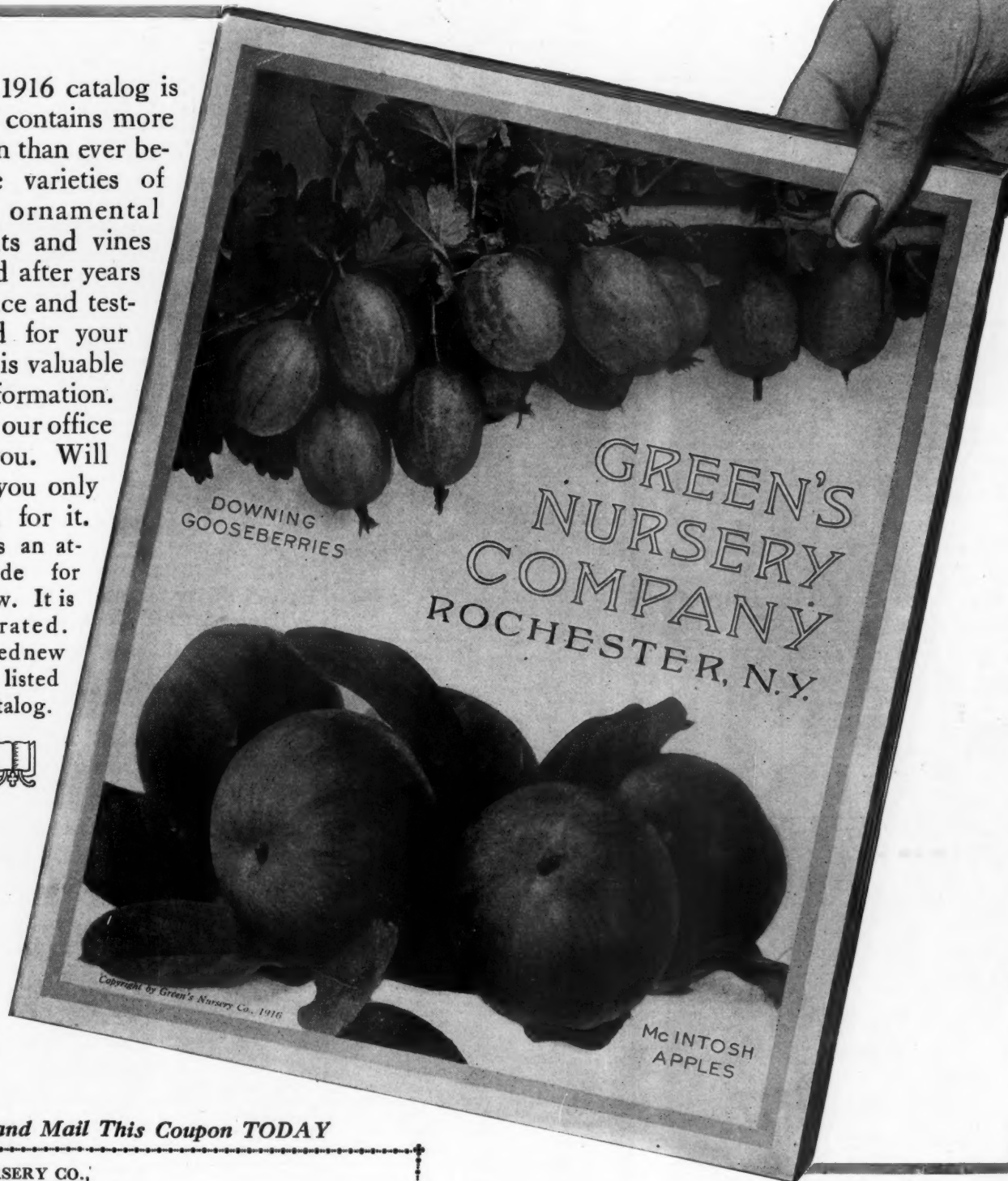
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Green's Fruit Grower

Take Uncle Sam's Advice

"If the farmer makes his purchase direct from the nurseryman, he will save the expense of the middleman or agent, and is less liable to the mistakes and injury that may occur through repeated handling. The selection of trees is a very important part of orcharding, for upon care and judgment in this matter depend largely the future profits of the investment."
—Says U. S. Dept. of Agriculture, Farmers Bulletin No. 113.

Green's 1916 catalog is larger and contains more information than ever before. The varieties of fruit and ornamental trees, plants and vines are selected after years of experience and testing. Send for your copy of this valuable book of information. It is now in our office ready for you. Will be sent to you only if you ask for it. This book is an attractive guide for you to follow. It is fully illustrated. Green's Tested new varieties are listed only in this catalog.



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New Galvanized heavy weight barbed wire put up in coils of about 100 lbs. 2 point barbs. Strong and well made for long service. Price per 100 lbs., \$2.95. Order by lot No. A-1-35.

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and best made, put up in exactly 80 coils to the roll. 2 point barbs. Price per roll, \$1.75. Order by lot No. A-1-36. Best quality, galvanized barbed wire, per 100 lbs., \$2.35. Order by lot No. A-1-37.

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Smooth galvanized wire. Suitable for fence, star wire, grape vine and all purposes for which wire is generally used. Put up in rolls of irregular lengths ranging from 80 to 250 feet. This low price is for 100 pounds of our No. 9 gauge, the standard size mostly in demand. We have every desired size. Order by lot No. A-1-37.

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Down Go All Roofing Prices!

97c Buys Metal Roofing

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